Abstracts

ORGANIC FIBERS — I

ARTIFICIAL FIBERS. Chemistry challenges linens, domestics industries as it cuts into natural fibers' exclusive markets. Donald H. Powers, Monsanto Chemical Co. *Linens & Domestics 31,* No. 2, 43-51 (Nov. 1945).

A lecture on rayons and synthetic fibers as competitors of linen for domestic fabrics of all kinds.

TTD:2-46.

ARTIFICIAL FIBERS. Tools for the intelligent. C. M. Whittaker, Courtaulds, Ltd. *Wool Record & Textile World 68,* 739-40 (Nov. 1, 1945).

Summary of a lecture on the uses of natural and synthetic fibers. Much of the trouble in using the man made fibers arises from faulty processing.

TTD:2-46.

SOLUBLE FIBERS. Some examples of the disappearing fiber technique. Anon. *Silk & Rayon 19,* 1247-8 (Nov. 1945).

Alginate rayon and some other soluble fibers have been successfully used in a variety of applications in which their solubility is an advantage rather than a drawback. One example is in obtaining etched effects in printing fabrics such as velveteen; another is for obtaining open or lace like structures in woven fabrics.

TTD:2-46.

THREAT TO WOOL. Fibers in no man's land. A. P. T. Holden. *Wool Record & Textile World 68,* 912, 914 (Nov. 22, 1945).

Summary of a series of lectures on the properties and uses of rayon and other artificial fibers as competitors of wool.

TTD:2-46.

WOOL SUBSTITUTES. Requirements of a man-made fiber equivalent to wool. Anon. *Silk & Rayon 19,* 1246-7 (Nov. 1945).

The principal effect required in any synthetic substitute for wool is that it must be capable of chemical combinations with acid or soap so that it can swell. Probably if the chemical character of wool is reproduced synthetically the scaly structure of the natural wool fiber will be found to be only a minor factor in felting and other properties.

TTD:2-46.

CONTINUOUS AND STAPLE FIBER PLANTS OF GERMANY. J. H. Givens, E. Higgs, L. L. Leach & A. R. Urquhart. Report No. 377, Office of the Publication Board, U. S. Dept. of Commerce, Washington, D. C. 1945; 224 pp.; price $2.00.

Reviewed in *Chem. & Met. Eng. 52,* No. 11, 292, 294 (Nov. 1945).

TTD:2-46.

Vegetable fibers — I 1

SUGAR BAGS. Use of cotton bags for storing sugar. D. L. Sen & Nazir Ahmad, Indian Central Cotton Committee. *Indian Textile J. 56,* No. 662, 135-41 (Nov. 1945).

Experiments with cotton bags for sugar reveal no serious defects as compared with jute and it has been demonstrated that sugar has better keeping quality in properly treated cotton than in jute bags. Even with this advantage, however, the cotton bag could not compete with jute at present price levels. The chemical treatment of the cotton bags comprised padding with 6% Al acetate solution at 70°C, with or without a supplementary padding with 1% tannin solution.

TTD:2-46.

FIBROUS BLANKET. Robert N. Brownlee (to Wood Conversion Co.). Can. P. 431 037, Dec. 18, 1945.

A blanket of vegetable fiber is formed by wetting the fibers with a liquid adhesive composition and depositing them on a conveyer to form a fluffy mass, and applying radiant heat to the fibers on the conveyer to dry the surface only. A compression roll then bonds the fibers together at the desired thickness.

TTD:2-46.

Cotton — I 1 a

COTTON. Looking at the future of cotton textiles. Ward Delaney, Institute of Textile Technology. *Textile Bull. 69,* No. 5, 20, 22, 26 (Nov. 1, 1945).

Research in harvesting, ginning and processing cotton fiber and in many aspects of fabric manufacture from the fiber will influence technological progress and thereby will be a potent factor in determining the future of the cotton textile industry.

TTD:2-46.

COTTON GROWING IN THE USSR. Ivan Benedictov, Deputy Commissar for Agriculture, USSR. *Can. Textile J. 62,* No. 23, 23-24 (Nov. 16, 1945).

The quality of cotton grown in Russia has been improved by seed selection and by mechanization. Among the improvements are colored cottons and coarse woolly varieties.

TTD:2-46.

COTTON HARVESTING. America's biggest cotton farm plans mechanization. F. W. Westbrook, Jr. *Textile Age 9,* No. 11, 58, 60, 62, 64-65 (Nov. 1945).

Illustrated description of mechanized harvesting and chemical defoliation, insecticide dusting and other expedients for lowering the cost of raw fiber production. Mechanical picking causes some loss in grade and about 4-5% increase in card waste at the mill. Nevertheless, since rapid picking lessens exposure of the fiber there is a definite gain in fiber quality and strength.

TTD:2-46.

COTTON STORAGE. Measures to check deterioration in Egyptian cotton varieties. I. Giza seed maintenance system. H. A. Hancock, Egyptian

Cotton Research Board. *J. Textile Institute 36.* T267-310 (Nov. 1945).

Deterioration in cotton varieties from one crop to the next may become very serious, with losses in staple length and tensile strength. A dated seed system has been developed which is expected to do much toward maintaining cotton quality. TTD:2-46.

Flax — I 1 b

LINEN. Flax culture in Sweden. Gunnar Gibson, Swedish Industrial Commission. *Textil och Konfektion 2,* No. 10, 4-13 (Dec. 1945).

A review of the flax and linen situation in Sweden. Conditions essential to successful production of high grade linen from Swedish flax are discussed. TTD.2-46.

FLAX FIBER. E. Butterworth (to Frazer & Haughton Ltd.). Brit. P. 569 333-4-5. *Textile Mfr. 72,* 497 (Nov. 1945).

Flax is treated in 3 stages for fiber recovery, first a solvent bath for inorganic components, then an alkaline bath but not of cottonizing strength, then a mechanical treatment to remove nonfibrous tissues. A machine for removing nonfibrous tissues is also disclosed. TTD: 2-46.

FLAX. Oregon Flax & Linen Board, Salem, Oregon, 1945. Reviewed in *Chem. & Met. Eng. 52,* No. 11, 298 (Nov. 1945). TTD:2-46.

Bast fibers — I 1 d

BAST FIBERS. Utilizing unretted flax and hemp. John F. Hagen, Callaway Mills. *Textile Bull. 69,* No. 5, 15-16, 18 (Nov. 1, 1945).

About 12% of German fiber production during the war was Flockenbast, made from bast fibers such as unretted flax and hemp. The treatments necessary to convert these bast fibers to cotton-like fibers raise the cost above that of either spun rayon or cotton. An advantage is that the flax fibers have high wet strength so that their blends with rayon offset the low wet strength of the rayon. TTD:2-46.

PITEIRA. Anon. *Fiber 6,* 157 (Nov. 1945).

Piteira fiber is used in cordage, binder twine and rough fabrics. It is weaker than sisal, but being softer it has potential uses not generally available to the hard fibers although by origin it belongs in the hard fiber group. For profitable production of piteira fiber some means of utilizing the 98% of the plant hitherto wasted should be developed. TTD:2-46.

SISAL MAT. Karl J. Kopplin (to F. Burkart Mfg. Co.). Can. P. 431 936, Dec. 18, 1945.

Smooth surfaced laminated mats of raw sisal fiber are made by bonding the fiber with a minor proportion of a resin and contacting layers of the bonded fiber together under pressure. TTD:2-46.

RELATIONS BETWEEN THE CHEMICAL FIBER CHARACTERS AND THE SPINNING QUALITY OF JUTE. Technological Research Memoir No. 6, Indian Central Jute Committee, Calcutta, 1945; price 1s.

Reviewed in *Indian Textile J. 56,* No. 662, 188 (Nov. 1945). TTD:2-46

Animal fibers — I 2

BLENDS. Production of mixture yarns. Anon. *Wool Record & Textile World 68,* 748-9 (Nov. 1, 1945).

Since faulty blending may cause the color effects of the blend to come out in patches it is desirable to use pure all wool blends in which the separate components are nearly alike in quality. Methods for obtaining a uniform blend of different colored fibers are discussed. TTD:2-46.

SILK FIBERS AND YARNS. E. Ostick. *Fibers 6,* 146-50 (Nov. 1945).

An illustrated review of silk production from cocoon to fabric. TTD:2-46.

WOOL. Woolen and worsted industries. Werner von Bergen, Forstmann Woolen Co. *Textile Bull. 69,* No. 5, 18, 42-43 (Nov. 1, 1945).

In terms of machinery the German woolen and worsted industry was nearly twice as large as the American industry. The principal production during the war was a standard uniform cloth known as "Einheitstuch." German practice in preparing the wool, spinning, weaving and dyeing is described. TTD:2-46.

WOOL GOODS. Woolens vs. worsteds. Anon. *Wool Record & Textile World 68,* 860, 862, 864, 866 (Nov. 15, 1945).

Report of a debate on the relative uses and importance of woolens and worsteds, with emphasis on the question of whether they are complementary or competitive. TTD:2-46.

WOOL LUBRICANT. G. P. Crowley & T. E. Thompson (to Imperial Chemical Industries Ltd.). Brit. P. 569 701. *Textile Mfr. 72,* 499 (Nov. 1945).

A lubricant for spinning, carding and knitting wool fibers contains at least one chlorinated paraffin hydrocarbon (10-12C) having from 2 to 7 Cl atoms in the molecule. These lubricants are stable to light and aging; they have a low flash point and are easier to scour out than other lubricants. TTD:2-46.

Artificial fibers — I 3

ACETATE RAYON. Blending of fibers. 2 Acetate rayon staple. Anon. *Fibers 6,* 143-5 (Nov. 1945).

Acetate staple in blends with viscose, cotton or wool permits attractive cross dyeing effects because of its different affinity for dyes. In blends with wool acetate staple imparts a crimp which maintains the appearance of wool, with less shrinkage. In blends with

cotton acetate staple gives a soft handle and improves crease resistance. TTD:2-46.

PROTEIN FIBERS. R. Signer. Brit. P. 569 662. *Textile Mfr. 72,* 498 (Nov. 1945).

A spinning shaft for receiving extruded filaments of artificial protein compositions is so arranged that the incoming filament meets a current of air in the middle of the shaft at about the mean temperature of the spinning interval. Toward the end of the shaft the filament is exposed to colder or warmer dry air. TTD:2-46.

CUPRAMMONIUM SOLUTION. Wm. A. Bodenschatz & Eric O. Ridgway (to Ridbo Laboratories, Inc.). Can. P. 431 864, Dec. 11, 1945.

A cuprammonium cellulose solution with NH_3 content suitable for spinning rayon filaments is prepared by wetting cellulose with a solution of $CuSO_4$ and slowly adding ammonia until the cellulose dissolves. The alkalinity of the added ammonia solution is increased by adding a suitable proportion of NaOH. TTD:2-46.

Synthetic fibers — I 4 a

BRISTLES. Brush it off. Louis Ludwig. *Plastics 3,* No. 5, 33-5, 84, 86, 88 (Nov. 1945).

Illustrated description of a wide variety of brushes for which nylon bristles are suitable. The moisture absorption of nylon is lower than that of oriental hog bristles formerly used in many brushes. Consequently nylon brushes are superior in uses requiring exposure to water. In textile printing, nylon brushes resist chemicals, dyes, solvents and abrasion better than natural bristles. TTD:2-46.

NYLON SURGICAL GAUZE. Robert Bingham, 25th Evacuation Hospital. *Modern Plastics 23,* No. 4. 111-12 (Dec. 1945).

Superior nonadherent surgical dressings have been developed from an emergency use in which surgical dressings were improvised from nylon window screening in an army hospital. It is probable that cotton, linen or wool can be processed with plastic finishes to make similarly superior surgical dressings. The present preferred form is a 34-filament, 210-denier nylon yarn in a nonslip mesh of 20 strands to the inch. It may be stiffened with a 2% solution of nylon type 6 in isopropyl alcohol. TTD:2-46.

STORY OF NYLON. W. W. Heckert, E. I. duPont de Nemours & Co. *Isotopics 22,* No. 2, 30, 32 (Feb. 1946).

A review of the development of nylon from the original pure research project on organic polymers in 1928 to the latest high grade nylon yarn with low modulus of elasticity, high tensile strength and low density. TTD:2-46.

Fiber applications — I 5

INSULATION. Melamine in the mines. Prescott C. Fuller, Am. Cyanamid Co. *Modern Plastics 23,* No. 3, 108-9 (Nov. 1945).

Rag-filled melamine resins have proved to be satisfactory for severe duty in mines and other applications where electrical insulation is exposed to strenuous service conditions. Arc resistance and shock resistance are properties which make these resins especially useful for electrical control panels and other insulated parts in mining machinery and installations. TTD:2-46.

KRISTON. Tailored allyl ester. Sam L. Brous, B. F. Goodrich Chemical Co. *Modern Plastics 23,* No. 4, 107-10 (Dec. 1945).

Illustrated description of a new polymerized allyl ester made by Goodrich for use in clear cast resins or in sheets or foils. Laminates of glass fiber, cotton, paper, asbestos or wool have also been made with Kriston. TTD:2-46.

LAMINATES. Bagasse resin laminates. T. R. McElhinney, Valentine Sugars. *Modern Plastics 23,* No. 3, 121-3 (Nov. 1945).

Bagasse from sugar refineries has been successfully employed to make thermosetting resins from which laminates have been made with kraft paper, sulfite paper, cotton duck and heat-treated glass fiber. Some of the products appear to be useful in post-forming operations. TTD:2-46.

HEAT INSULATION. Clarence J. Davies (to Nat'l Automotive Fibers, Inc.). USP 2 390 208, Dec. 4, 1945.

Insulating batts of cotton or other fiber are treated in such a way that they remain soft and resilient but are able to withstand rough handling. The batt is first thoroughly dusted with a dry powdered thermoplastic so that the powder is well distributed throughout the batt. Heat is then applied by blowing hot air through the batt to soften the thermoplastic fibers and obtain a binding effect. TTD:2-46.

GERMAN SYNTHETIC INSULATION FOR WIRE AND CABLE. Rubber Bureau, WPB, Office of Rubber Reserve, RFC. Superintendent of Documents, Washington, D. C., 1945.

Condensed in *Indian Rubber World 113,* 219-21, 230 (Nov. 1945). TTD:2-46.

INORGANIC FIBERS — II

Glass fiber — II 2

GLASS FABRIC. Processing and uses of fiber glass. A. M. Robertson, Fiberglass Ltd. *Dyer 94,* 435, 437, 439 (Nov. 23, 1945).

Since glass fiber cannot be successfully colored by the methods long in use for making stained glass it was necessary to develop special dyeing and printing methods. Development of such a method was stimu-

lated by the need for black glass fabric in shades for parachute flares. The fabric can now be dyed or printed in apparatus used in the textile industry. Another successful method is to print the design with a vitreous enamel and fire it so that the colored design is permanently set in the fabric. Because of the low knot strength of glass fiber broken yarns cannot be tied together, but they can be strongly cemented together with a cellulose acetate adhesive. TTD:2-46.

GLASS YARN. James F. Hyde (to Corning Glass Works). USP 2 390 370, Dec. 4, 1945.

Conversion of glass fiber to yarn is facilitated by passing the freshly formed fiber bundles from the glass melt through a liquid binder at high speed so that the fibers pick up just enough of the binder for effective spinning into yarn. Coatings which combine the necessary lubricating and binding effects comprise solutions or emulsions of organo-silicon compounds, e. g. siloxanes of the type of methylpolysiloxane or phenylethylpolysiloxane. The lubricating component may be for example dodecylsilicontrichloride.

TTD:2-46

CUTTER. John J. Gregory (to Pittsburgh Plate Glass Co.). Can. P. 431 860, Dec. 11, 1945.

A device for cutting a filament which alternately increases and decreases in denier is actuated by a solenoid having make and brake contacts so that the filament controls the cutter through variations in thickness. A filament guide is provided which includes a tube through which the filament passes while an air current is blown lengthwise of the line of travel.

TTD:2-46.

FIBERGLAS CHART. Bulletin of Owens-Corning Fiberglas Corp., Toledo, Ohio, 1945.

Reviewed in *Modern Plastics 23,* No. 3, 182 (Nov. 1945). TTD:2-46.

Coated products — II 3 c

COATED GLASS FIBER. Frank J. Soday (to United Gas Improvement Co.). USP 2 390 190, Dec. 4, 1945.

Glass fiber for insulation or for use in fabrics or the like is improved in resilience, resistance to mechanical stresses and ability to withstand the conditions of storage, transport and handling during installation. The improvement is effected by treating the glass fibers with an aqueous emulsion of a petroleum gas tar resin. A special advantage of the treatment is increased resistance to abrasion, since glass fibers are particularly sensitive to damage by abrasion. TTD:2-46.

FIBER TO YARN — III

BLENDS. Cotton in the Wool Industry. Leonard Bellwood. *Textile Weekly 36,* 844, 846, 848, 940, 942, 944, 982, 984, 986 (Nov. 2, 16, 23, 1945).

Many useful blends of cotton with wool have been developed. A special example is a yarn for piece dyed

goods which would not take the dye used to color untreated cotton. Previously acetate rayon had been used for this purpose but a better yarn was obtained by a surface treatment of cotton which immunized the treated yarns to the dye. TTD:2-46.

Fiber preparation — III 1

CARDING. Modern methods of carding. J. W. Radcliffe, Henry Booth & Son, Ltd. *Wool Record & Textile World 68,* 756 (Nov. 1, 1945).

Summary of a lecture on modern practice in carding wool. TTD:2-46.

COTTON COMBER. Automatic cotton comber. Anon. *Textile Recorder 63,* No. 752, 40 (Nov. 1945).

The automatic comber developed by Cramerton (N. C.) Mills, embodying automatic creeling and doffing devices and processing 36 to 40 lb./hr. is discussed. TTD:2-46.

DRAFTING. An instrument for the measurement of the forces operating between fibers during drafting. J. G. Martindale. *Shirley Institute Memoirs 19,* 387-402 (Nov. 1945).

A new instrument for investigating the drafting wave differs from earlier devices in that it measures the drafting force between fibers. The instrument comprises a small draw frame, the front rows of which are held in a spring mounted cradle. Deflections of the cradle, indicating the force required to draft the sliver or roving, are recorded by photographic apparatus. An undulating variation in drafting force is observed. It is similar in wave length and amplitude to the variations in thickness shown by photographic traces. For a given sliver the drafting force varies inversely as the draft but is independent of drafting speed. Increasing the roller setting decreases the drafting force. A sliver of Tanguis cotton needs less drafting force than a sliver of Sakel cotton, which has about the same staple length as Tanguis but is much finer. TTD:2-46.

FIBER PREPARATION. Cotton mill opening and picking machinery. Anon. *Am. Wool and Cotton Reptr. 59,* No. 47, 11-12, 14 (Nov. 22, 1945).

Transcript of the discussion on cotton, opening and picking machinery at the Eastern Carolina division meeting of the Southern Textile Association, Durham, Nov. 10. Use of cotton harvesting machinery increases the difficulty of cleaning cotton as it comes to the mill. TTD:2-46.

WOOL TOPS. Producing an even top. W. H. Robinson. *Textile Recorder 63,* No. 752, 43-4 (Nov. 1945).

Four factors that interfere with obtaining even tops are: broken ends between the sliver can and the gill box, uneven sliver tension, uneven drying, and uneven gilling. Of these the last is more often responsible and this because of faulty drafting. TTD:2-46.

FELTING NEEDLE. Edson P. Foster (to Adeline P. Foster). USP 2 391 560, Dec. 25, 1945.

A needle for felting machines used in compacting wool, hair or fur into a felt has all its barbs or spurs formed in a single lengthwise ridge along the body of the needle. Breakage of warp and weft threads of the fabric base of the felt is thereby diminished.

TTD:2-46.

FIBER SPINNING. Barend G. H. van der Jagt. USP 2 392 709, Jan. 8, 1946.

An improved frame for drawing slivers from coconut, palmetto or other short fibers has a series of pullers carrying tapered drawing needles along a drawing path. Breaking of the drawn slivers, a frequent trouble, is largely avoided by forcing the needles deep into the adhesively felted slivers, followed by an easy and smooth disengagement. The slivers are withdrawn at the rear end of the drawing paths. TTD:2-46.

DRAWING ROLLS. R. R. Govan & J. Duff, Jr. Brit. P. 569 137, *Textile Mfr. 72,* 496 (Nov. 1945).

Long-wearing wood rolls for drawing frames and the like are built up from pieces cut from a seasoned plank and shaped so that adjoining edges lie radially in the roll, as well as the projections and grooves. This construction exposes the ends of the grain to wear.

TTD:2-46.

DOFFER COMB. Aktiebolaget Svenska Kullagerfabriken. Brit. P. 569 572. *Textile Mfr. 72,* 498 (Nov. 1945).

A drive for doffer combs on cards is fully equipped with ball or roller bearings on all rotating or oscillating parts. The driving shaft has an outer ball bearing and an inner roller bearing, separated by distance sleeves. TTD:2-46.

CARD. Irvin Marsden (to Platt Bros. & Co.). Can. P. 431 018, Dec. 18, 1945.

The rubbing motion of tape condensers on cards is driven through a variable speed gear mounted on the card frame. TTD:2-46.

CARD DRIVE. Irvin Marsden (to Platt Brothers & Co., Ltd.). Can. P. 431 526, Nov. 27, 1945.

A drive for card cylinders is fitted with variable speed gearing and with a reversible gear, placed between the card cylinder and the worker rools. TTD:2-46.

TEXTILE TREATMENT. Hubert C. M. H. Duesberg (to Ateliers H. H. Duesberg Bosson S. A.). Can. P. 432 046, Dec. 18, 1945.

A mixture of pure textile fibers and shredded rags is cleaned and processed by passage between odd speed rolls which are held together under yielding pressure.

TTD:2-46.

Spinning III 2

GERMAN MACHINES. Reich Spinning, Not Looms, Held Noteworthy. James L. Truslow, Am. Viscose Corp. *Daily News Record No. 44,* 26-27 (Feb. 21, 1946).

European developments in machinery for fiber processing and spinning, as observed by the textile machinery mission to Germany, include the Scheuffelen woolen cards, the Gessner woolen spinning frame, cotton cards with individual electric drive, Italian and Swiss small cylinder cards which developed out of ideas originating at the Shirley Institute, the Marzoli special lap winder, the Schlafhorst automatic filling winder and the Scherer winder made in Switzerland.

TTD:2-46.

SPINNING. Enemy technology in fiber spinning. Anon. *Can. Textile J. 62,* No. 23, 40-41 (Nov. 16, 1945).

A brief review of German practice in spinning rayon staple and worsted yarns, as observed by the US textile mission. TTD:2-46.

SPINNING STAPLE FIBER. Denkendorf equipment analyzed in detail. Robert M. Jones, Saco-Lowell Shops. *Daily News Record No. 44,* 27 (Feb. 21, 1946).

The German rayon industry's experimental spinning mill at Denkendorf, as observed by the textile machinery mission, had several varieties of drawing frames, some equipped with the Erickson recorder which is a Swedish invention for recording machine operation on a dial in the superintendent's office. Outstanding among the roving frames was the Reiter frame made in Switzerland. A special feature of the spinning frames is the suspended top roll, which facilitates cleaning and simplifies the frame. This also is a Swedish invention. An air suction device for replacing the usual scavenger roll is a Swiss invention but is also patented in America. An experimental model of a continuous staple cutter showed some promise of improvement over present practice.

TTD:2-46.

SPINNING FRAME. Louis M. Cotchett (to Saco-Lowell Shops). USP 2 390 135 and 2 391 295, Dec. 18, 1945.

A self-cleaning spinning frame which occupies less floor space than conventional designs and facilitates servicing operations such as replacing empty roving bobbins has 2 lines of spindles and a cover between them so spaced that the air current caused by bobbin rotation keeps the surface free from lint or fly. A creel structure for this type of spinning frame has supports for rows of bobbins, one above another, in an arrangement which permits free access to all of the bobbins from opposite sides of the creel.

TTD:2-46.

DRAWING ROLLS. Harry G. Steinmetz (to E. V. Hadley). USP 2 390 398, Dec. 4, 1945.

Drawing rolls for spinning machines are given a surface covering of parchment paper or other suitable material by a machine which applies a specified number of layers or fractions thereof so that the working

surface is uniform. The machine is much faster and more economical than the previous method of hand application, with equally satisfactory results. A rotating knife is timed so that exactly 2.5 turns of the paper strip are applied before cutting off the end.
TTD:2-46.

ROLL CLEANER. Meinard F. Thoma. USP 2 391 754, Dec. 25, 1945.

A cleaner for the drawing rolls of spinning machines keeps the working services as well as the ends of the rolls free from accumulations of fly, lint and grease. Fibrous cleaning discs at the ends of the rolls are employed so that fly and lint are removed without removing lubricant from the bearing surfaces.
TTD:2-46.

BOBBIN. Rexford P. Bennett (to Clover Leaf Mfg. Co.). Can. P. 431 960, Dec. 18, 1945.

A machine for doubling and twisting yarn utilizes a spindle having a blade and a bobbin rest. The bobbin employed in this machine carries a hole to receive the spindle blade and its base is inclined and arranged for frictional engagement with a similar inclined surface on the bobbin rest to permit operation at high speeds.
TTD:2-46.

Cotton — III 2 a

HIGH DRAFTING IN COTTON SPINNING. Ruskin Howard, Casablancas High Draft Co. *Textile Weekly 36,* 834, 836, 838 (Nov. 2, 1945).

Mechanical efficiency in cotton spinning has caught up with and passed the older methods of 3 lines of drafting rolls and is now demanding more modern high draft systems. A Casablancas system is described and its performance characteristics in spinning are discussed.
TTD:2-46.

MAKING FABRICS. Cotton spinning process and its adaptability to the spinning of other fabrics. Eugene C. Gwaltney, Saco-Lowell Shops. *Am. Wool & Cotton Reptr. 59,* No. 46, 19, 21 (Nov. 15, 1945).

Application of the cotton textile system of machinery to other fibers than cotton calls for skill and care, especially in blending. Cross-dyeing of blends is a common practice which calls for a high degree of perfection in the blending system. Equipment for drafting is not always the best for the purpose since the best staple length is not yet settled for various applications of fibers. Some attractive yarns have been made from the shorter staple wools by double carding on the cotton system of machinery. TTD:2-46.

TRAVELER RINGS. Actiengesellschaft J. J. Rieter & Cie. Brit. P. 569 425. *Textile Mfr. 72,* 497 (Nov. 1945).

A conical nut for holding traveler rings in ring rails is held by a screw within the bore of the rail so that the nut bears against the ring flange. A recess is provided in the ring at the holding point so that the ring is anchored at the lower edge of the bore of the rail.
TTD:2-46.

Wool — III 2 b

SPINNING WOOL. Cotton system in wool spinning. Eugene C. Gwaltney, Saco-Lowell Shops. *Fiber & Fabric 98,* No. 3173, 10 (Nov. 24, 1945).

Wool tops from the finer grades of wool, with staple length not over 4 in., have been spun into satisfactory yarns on the cotton system of machinery. Before spinning the tops are passed through 2 drawing processes and 1 or 2 roving processes. TTD:2-46.

WORSTED. Use of single roving in worsted spinning. Durant Anthony. *Can. Textile J. 62,* No. 23, 42-3 (Nov. 16, 1945).

In many instances the use of a single roving in worsted spinning reduces manufacturing costs without seriously impairing yarn quality. TTD:2-46.

Silk — III 2 c

SPUN SILK THREAD. Specification DTD 576a (Superseding DTD 576). Ministry of Aircraft Production, London, August 1945; price 7d.
TTD:2-46.

Rayon — III 2 d

RAYON SCRIM. Heavy spun viscose rayon scrim fabric. Anon. *Am. Wool and Cotton Reptr. 59,* No. 44, 11-12, 14 (Nov. 1, 1945).

A rayon scrim is described which is similar to butcher cloth but employs more regular yarns. Balanced production of this fabric is difficult, but loom output is comparatively high. Details of yarn per spindle, number of twisters, carding and loom settings are presented. TTD:2-46.

VISCOSE RAYON MANUFACTURE. Continuous spinning and processing methods. Anon. *Textile Weekly 36,* 930, 932, 934 (Nov. 16, 1945).

The modern rayon producing processes developed by Industrial Rayon Corp. in America and controlled by Courtaulds, Ltd. in England are described. The Lektroset feature is emphasized. TTD:2-46.

VISCOSE YARN. Continuous process rayon patents purchased by Courtaulds, Ltd. Anon. *Can. Textile J. 62,* No. 23, 21-2 (Nov. 16, 1945).

Illustrated description of the continuous process for making viscose without the customary repeated handling between operations. European rights to the invention have been bought by Courtaulds, Ltd.
TTD:2-46.

SPINNING BUCKET. Harrison D. House (to Am. Viscose Corp.) USP 2 391 781, Dec. 25. 1945.

A removable light weight shell is provided for spin-

ning buckets employed in spinning rayon. The shell is easily removable so that it is not necessary to make the spinning bucket itself of a fragile resinous material. The shell is permanently covered so that the bucket needs no cover. TTD:2-46.

ALGINATE RAYON. G. Hegan & G. Harrison (to Courtaulds, Ltd.). Brit. P. 569 212. *Textile Mfr. 72,* 497 (Nov. 1945).

A solution of Ca alginate is extruded into a suspension of $CaCl_2$ and is then spun into a bath containing 5% $CaCl_2$. TTD:2-46.

Winding III 3

WINDERS. Automatic pirn winders and looms. D. R. H. Williams. *Wool Record & Textile World 68,* 955, 957-8 (Nov. 29, 1945).

Precision work by Swiss engineers is reported in the design and construction of automatic pirn winders and precision looms. The Sulzer loom, which is a radical departure from the usual principle, is a precision loom for high output. TTD:2-46.

MULTIPLE WINDER. Herman P. Ruf. USP 2 390 223, Dec. 4, 1945.

A winder for yarn or the like is arranged to wind a number of bobbins simultaneously at a controlled speed which is the same for all the bobbins. Individual clutches serve for removing any bobbin when filled. TTD:2-46.

WRAPPING. Charles J. Murphy (to Essex Wire Corp.). USP 2 390 454, Dec. 4, 1945.

An improved flier for wrapping yarn around wire is so arranged that each cop is in plain sight of the operator so that exhaustion of cops can be readily detected on any flier in a series. TTD:2-46.

CONE WINDER GUIDE. Wm. T. Stearn (to Celanese Corp. of Am.). USP 2 390 669, Dec. 11, 1945).

Wear at the contact points of a guide for cone winders is greatly diminished and yarn breakage is practically eliminated by an improved design of cone winder guides in which friction is minimized. Because of lessened guide wear and yarn tension this cone winder produces softer packages than others. TTD:2-46.

WINDER CONTROL. John H. Garrott (to Clark Thread Co.). USP 2 390 703, Dec. 11, 1945.

The accuracy of a control for stopping a winder when the package reaches a specified yardage is improved by controlling the yardage through the number of spindle revolutions instead of package diameter. The new mechanism is simple in operation and requires no resetting, so that the operator has only the standard operations to perform. TTD:2-46.

WINDER DRIVE. Frederick D. Snyder (to Westinghouse Electric Corp.). USP 2 390 812, Dec. 11, 1945.

An electric drive for winders provides constant tension on the strand being wound, regardless of the winding speed and the diameter of the package. The motor operates from a.c. current and does not require a d.c. generator. TTD:2-46.

YARN WINDING. Geo. Beach (to Owens-Corning Fiberglas Corp.). USP 2 391 870, Jan. 1, 1946.

A traversing mechanism provides for packaging fiber strands, especially glass yarn, at very high winding speeds (12,000-20,000 rpm). Instead of successive turns, side by side, a formation which frequently causes broken filaments and ringer formation in unwinding, the strands may be wound in spirals with large angles of intersection. Entangling is thus largely avoided. Undue tension, another difficulty encountered in high speed winding, is avoided by positively moving the strand from one end of the package to the other. TTD:2-46.

WINDER. Robert E. Morton (to Universal Winding Co.). USP 2 391 472, Dec. 25, 1945.

An automatic device to be attached to winders winds a reserve length of yarn on the end of a core, tube, or bobbin before winding the package itself. Thus hand winding of the reserve length is rendered unnecessary while at the same time the automatic device avoids the use of pawl and ratchet mechanisms and is extremely simple in construction and operation. TTD:2-46.

TRAVERSE MOTION. W. Gibson. Brit. P. 569 490. *Textile Mfr. 72,* 498 (Nov. 1945).

A cam for traverse motions includes a driven cam the inner surface of which constitutes a working cam and a complementary cam of similar shape. Spaced followers attached to a yarn traverse guide are located in this inner space so that they are engaged by the working cam to impart a uniform motion. TTD:2-46.

BOBBIN SPINNING. Arthur L. Jackson (to Cornelius C. Vanderhooven). Can. P. 431 561, Nov. 27, 1945.

Heavy, thick cross-wound packages of heavy rayon (300 denier or higher) are produced by pattern winding with the aid of a bobbin spinning device which continuously produces a reciprocating motion through a traverse member. TTD:2-46.

WINDER. Ed Fletcher (to Fiberglas Canada, Ltd.). Can. P. 431, 974, Dec. 18, 1945.

The holder on a winder has a resilient expansible character so that it can be expanded during rotation to an extent depending on the speed of rotation. The holder is then contracted when the package is completely wound. TTD:2-46.

Yarn processing **III 4**

COVERING BATTS. Cecil E. Webb (to Wm. R. Steltenpohl). USP 2 390 340, Dec. 4, 1945.

A machine for covering fiber batts to be used in insulating, padding or soundproofing constructions automatically applies a fibrous sheet such as paper to both faces of the batt, holds the margins and seals them with an adhesive. Finally, the machine cuts the wrapped batt to the desired lengths and rolls them into cylinders ready for shipment. TTD:2-46.

TENSION CONTROL. Eugene C. Gwaltney & Henry R. Marsh (to Saco-Lowell Shops). USP 2 391 307, Dec. 18, 1945.

An easily adjustable reliable tension control device for twisters and other yarn handling machines provides the slow gradient of adjustment and the uniformity of tension which are especially important for the 2-for-1 type of twister. TTD:2-46.

CUTTER. Walter E. Llewellyn (to E. I. duPont de Nemours & Co.). USP 2 391 719, Dec. 25, 1945.

A cutter for producing staple fiber from continuous filaments passes the filament through an orifice in a plate by means of a drive shaft at right angles to the plate, driven by a sun gear in fixed position parallel to the plate and a planet gear which is meshed with the sun gear and carriers the cutting knife. TTD:2-46.

STRETCHING ACETATE. Brit. Celanese, Ltd. Brit. P. 569 669. *Textile Mfr. 72,* 498 (Nov. 1945).

Apparatus for stretching acetate rayon while in motion and under the influence of a softening agent has a conical roll with guides on each side for directing the thread around the desired part of the roll. The setting is such that the thread is drawn at a speed which varies inversely with the tension. TTD:2-46.

ACETATE SILK. John L. Baggett (to Camille Dreyfus). Can. P. 431 560, Nov. 27, 1945.

Yarns made of high denier acetate are conditioned by treatment with a liquid containing a mineral oil, an electrolyte, a long chain alcohol, a sulfonated long chain acid, a trialkylolamine resinate, a short chain alcohol and a hygroscopic organic compound. TTD:2-46.

Yarn products **III 5**

ROPE SPLICER. Elmer H. Borgelt. USP 2 390 505, Dec. 11, 1945.

A rope splicing tool which does not damage the strands of fiber and is particularly useful for splicing nylon glider tow ropes has a spiral bit shank in which the pitch of the spiral is approximately the same as the pitch of the rope strands to be spliced. TTD:2-46.

TIRE CORD. Wm. Whitehead (to Camille Dreyfus). Can. P. 431 559, Nov. 27, 1945.

Cord for making tire fabric is prepared by stretching acetate silk and completely regenerating the cellulose of the filaments by hydrolysis. The yarn is then superficially esterified with a solution of phthalic anhydride in acetic acid. The treated yarns are then formed into tire cord arranged in the form of a warp sheet and rubberized. TTD:2-46.

Yarn applications **III 6**

LAMINATES. Alfred J. Stamm & Harold D. Turner (to Secretary of Agriculture of the USA). USP 2 391 489, Dec. 25, 1945.

Fibrous sheets are impregnated with a thermoplastic, precompressed at a plasticizing temperature, cooled under pressure to solidify the thermoplastic, laid up in the required number of plies and molded to shape under heat and pressure. TTD:2-46.

RESILIENT FIBERS. Rohm & Haas Co. Brit. P. 569 188. *Textile Mfr. 72,* 496 (Nov. 1945).

Rayon staple fiber which is 26% more resilient than untreated fiber is made by impregnating a bulk of the fiber with a 5-20% solution of resinifiable components under pressure at 30-100°F. The solution is then removed and the portion retained by the fibers is resinified by heat. The resinifiable component may be dimethylolurea. TTD:2-46.

YARN TO FABRIC IV

SEA WEED RAYON. Arthur Johnson, Courtaulds, Ltd. *Textile J. of Australia 20,* 420 (Nov. 1945).

Alginate rayon is useful in its soluble state as a supporting fiber for wool in weaving and knitting very fine wool yarns, after which the alginate is leached out leaving the wool fabric. A similar application makes it possible to produce cloth of the Astrakhan type, even with loops on both sides of the fabric, on much simpler machinery than would otherwise be possible. There are numerous potential uses for alginate rayon if it can be successfully rendered alkali-insoluble. TTD:2-46

Weaving **IV 3**

GERMAN LOOMS. German weaving declared comparable to that of US in early 1900's. Brackett Parsons, Pepperell Mfg. Co. *Daily News Record No. 44, 26* (Feb. 21, 1946).

German looms, as observed by the textile machinery mission to Germany, are relatively backward in development and appear to have operated with short runs, poor yarn, poor warp preparation and relatively high operating costs. While spinning equipment is relatively more modern and runs at higher speed with lower twist than in America the number of ends

down is 2 or 3 times higher than in good American practice. Shortage of starch led to use of soluble cellulose ethers in warp sizing, at higher cost than for starch and with no improvement in warp stops. Many looms have a mechanical warp stop motion and electric feeder motion, which is the reverse of the usual American arrangement. TTD:2-46.

WEAVING. From ancient art to modern automatics. Anon. *Textile Weekly 36,* 1014, 1016, 1018, 1026 (Nov. 30, 1945); discussion, 1020, 1022.

Illustrated description of the Ashton Brothers Mill where 1,000 Northrup automatic looms are in use. TTD:2-46.

SHUTTLE CHECK. Elliot A. Santon (to Crompton & Knowles Loom Works). USP 2 390 963, Dec. 11, 1945.

An improved shuttle check device exerts force against the shuttle motion when the shuttle is being boxed but unlike prior devices does not exert this force at the time of picking. This eliminates a serious source of wear on pickers and other parts of the picking mechanism. The force exerted during boxing has 2 components, 1 provided by a spring and the other by friction. TTD:2-46.

Looms — IV 3 a

JACQUARD MATTING LOOM. Diplomist. *Textile Weekly 36,* 1036, 1038, 1040, 1042 (Nov. 30, 1945).

Illustrated description of the Wilson and Longbottom Jacquard matting loom with the Dracup Jacquard mechanism. TTD:2-46.

LOOM CONTROL. Waffle spot seconds caused by loom roll pressure. S. G. Davenport, Kali Mfg. Co. *Warp Sizing Specialist 1945,* 1-2 (Nov.).

Dull spots occurring in regular sequence on a dyed satin were traced to contact of the satin with corrugated rubber rolls. TTD:2-46.

CONVERTIBLE LOOM. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 391 602, Dec. 25, 1945.

A loom which can be used either for automatic weaving with different weft colors, automatic weaving with wefts of the same color or nonautomatic pick-and-pick weaving with 4 or more shuttle boxes on each side, has several vertical stacks of reserve bobbins for transfer to any of several weaving shuttles. The magazine selector is provided with a control which shifts the selector so that successive transfers will take bobbins from different stacks and mixing of the weft will be effected at the magazine. TTD:2-46.

FABRIC WEAVING. Archworth Martin. USP 2 392 489, Jan. 8, 1946.

A loom for making wire mesh by the basket weave is suitable also, with modifications, for weaving fabrics.

Continuous travel of the warp eliminates the need for an operator's advancing the strands intermittently and inserting fillers during pauses in travel. This apparatus permits loom output of 20-30 ft./min. with stay spacings of 2" or less; wider spacing would allow faster travel. TTD:2-46.

SHUTTLELESS LOOMS. Sulzer Freres S. A. Brit. P. 569 344. *Textile Mfr. 72,* 497 (Nov. 1945).

Loom speed is increased by a design employing gripper shuttles and stationary weft bobbins. An inserted thread is held at the edge of the fabric and cut. After the thread drawn from one bobbin has been inserted and beaten up the next shed is opened and a thread is inserted which has been drawn from a second bobbin while the end of the other thread is being transferred to a thread inserter. The gripper holds the weft at the edge of the fabric until thread drawn from another bobbin has been inserted into the shed. This loom is suitable for weaving crepe fabrics. TTD:2-46.

Loom parts — IV 3 b

THREAD HOLDER. Elliot A. Santon (to Crompton & Knowles Loom Works). USP 2 390 962, Dec. 11, 1945.

A device for multicolor weft replenishing looms having several vertical stacks of bobbins serves to prevent thread breakage by contact with the lay. This is effected by taking up the slack on the thread as the bobbins move downward. The thread holder has a positive drive so that turning of the gears to tighten the thread always occurs when descending bobbins cause slackness in the thread. TTD:2-46.

WEFT REPLENISHING LOOM. Walter H. Wakefield (to Crompton & Knowles Loom Works). USP 2 391 370, Dec. 18, 1945.

A loom which has a weft supply at the replenishing end in a shifting shuttle box holds the shuttle box in raised inactive position on picks 1 and 2, and in down active position on picks 3 and 4. The arrangement is such that the selector is held in a noninterfering position long enough for the stop to assume its correct position, or for the greater part of 2 picks of the loom. By this means the selector does not interfere with motion of the stop to its different positions for successive releasers. TTD:2-46.

TENSION INDICATOR. Wm. J. Elvin & John B. Steiding (to Camille Dreyfus). Can. P. 432 043, Dec. 18, 1945.

A device for indicating the tension in a traveling warp of threads has spaced links pivoted on a support, and a rod carried by the free ends of the links above the full width of the warp in such a way that a pointer actuated by the rod moves according to the tension on the warp. TTD:2-46.

Control devices — IV 3 c

NARROW FABRICS. Elbridge R. Holmes (to Crompton & Knowles Loom Works). USP 2 390 314, Dec. 18, 1945.

In weaving narrow fabrics from heavy yarns such as glass fiber the quill often continues revolving by its own momentum after the shuttle stops in the shuttle block. This causes a loss in weft tension. To overcome this defect a resilient wire brake is pivoted on the shuttle in such a way as to engage a flange of the quill so that the brake does not act while the shuttle is moving through the warp shed but is applied near the end of the pick laying movement.

TTD:2-46.

TWISTER. Gustaf E. Nordstrom (to Am. Fiber Corp.). USP 2 390 729, Dec. 11, 1945.

Twisters of the Brownell type are improved by a mechanical doffer which is foot-operated, leaving the operator's hands free for machine manipulations. The full packages are easily and safely doffed without stopping the machine or interfering with adjacent spindles.

TTD:2-46.

AUTOMATIC CUTOFF. John Z. Linsenmeyer & Lloyd C. Poole (to Westinghouse Electric Corp.). USP 2 390 799, Dec. 11, 1945.

An improved automatic cutoff control for spooling, warping, stranding and weaving machines having drop wire switches provides a reliable pickup of the control impulses by the relay so that the machine is immediately and safely stopped when a strand breaks, even though the contact may be transient or imperfect. The pickup device utilizes a Thyratron electron tube, which is automatically deenergized when the cut out operation is completed. TTD:2-46.

WEFT DETECTOR. Richard G. Turner (to Crompton & Knowles Loom Works). USP 2 391 365, Dec. 18, 1945.

An electric weft detector for looms indicates weft exhaustion by moving through a primary stage around one pivot to establish contact with a binding post and then moves about the contact as a center during the second stage of indication. A spring holds the detector finger back and restores it to its normal position after a detecting operation. TTD:2-46.

STOP MOTION. Oscar V. Payne (to Crompton & Knowles Loom Works). USP 2 391 591, Dec. 25, 1945.

An electric warp stop motion in which the electric current for stopping the loom is not required to pass through the fallen drop wire has a lamp signal which indicates when the loom is stopped by a warp fault. The lamp signal greatly assists the weaver in finding the location of the fallen drop wire when the loom is stopped. TTD:2-46.

DAGGER STOP. Albert Maurer (to Draper Corp.). USP 2 391 726, Dec. 25, 1945.

A protector mechanism for high speed automatic looms has the cast iron dagger stop covered with a layer of natural or synthetic rubber, held in place by a strap.

TTD:2-46.

BEAT UP MECHANISM. D. W. Shimwell (to Kek Ltd.). Brit. P. 569 199. *Textile Mfr. 72,* 496 (Nov. 1945).

If the shuttle is not boxed at beat-up the loom is automatically stopped. The comb moves upward rapidly to effect beat-up and leave the warp shed. Its backward and downward motion, clear of the warp shed, is also rapid. TTD:2-46.

WINDER. John L. Hall & Angelo M. Santolla (to Camille Dreyfus). Can. P. 432 208, Dec. 25, 1945.

A stop device for stopping a winder when the yarn package reaches the specified size has a gauge which makes contact with the end of the traverse bar when the yarn package reaches a certain diameter. The gauge is mounted on the traverse bar in such a way that when contact is made the braking device for the winder is actuated. TTD:2-46.

Fabric construction — IV 3 d

PATTERN EFFECTS. Cut stripes & checks: their construction. Alex J. Bennett. *Indian Textile J. 56,* No. 662, 148-50 (Nov. 1945).

Cut stripe and check patterns are introduced into fabrics by a damask weave pattern, by running out the design onto a special number of threads, by inserting special cutting threads, by introducing plain weave design cutting threads on a ground weave, or by inserting special thick thread or cord thread in the warp or weft. Patterns obtained by these methods are illustrated. TTD:2-46

TRANSMISSION BELTS. Arthur S. Brown & Gertrude E. Sedgley. USP 2 391 674, Dec. 25, 1945.

Tubular fabric for making transmission belts is woven in the customary way except that fold-guiding lines are introduced around the fabric parallel to the filling threads and spaced at suitable intervals from each other. These lines may be introduced by manipulating the harness on the loom to cause a harness skip or by introducing a larger weft thread where the guide line is to be located. TTD:2-46.

Weave defects — IV 3 e

BLENDS. Cloth defects due to improper wool blending. A. C. Robert. *Textile Age 9,* No. 11, 42, 44, 46-47 (Nov. 1945).

Faulty blending of wool with other fibers results in certain defects such as low strength due to faults in carding or spinning, dyeing rags before instead of after picking, and combining fibers which have poor felting property in ways which emphasize this defect.

TTD:2-46.

WEAVING. Center weft fork & the stop on pick motions. Anon. *Silk & Rayon 19,* 1240-2 (Nov. 1945).

Illustrated description of the fixing, setting and operation of the center weft fork and stop on pick motions to prevent defects in weaving. TTD:2-46.

Knitting machines — IV 4 a

HOSIERY. Elastic yarns on Komets. "K. O. Metz". *Cotton* (Atlanta) *109,* No. 11, 166, 168 (Nov. 1945).

It is not difficult to add elastic top numbers through a regular line of hosiery knit on the Komet machines. Directions for knitting elastic yarns on these machines are given. TTD:2-46.

RECONVERSION. Cushion soles to terry products. Posch Warr. *Cotton* (Atlanta) *109,* No. 11, 161, 164 (Nov. 1945).

Some problems involved in the transition from cushion soles to terry products in making knit hosiery on Banner, K, B-5 and Banner split-foot type knitting machines are discussed with reference to the characteristics of the respective machines. TTD:2-46.

WELTING. W. G. MacDonald & W. A. Cooper (to W. Cotton Ltd.). Brit. P. 569 163. *Textile Mfr. 72,* 496 (Nov. 1945).

A straight bar knitting machine is adapted to the production of welted fabrics by attaching a welt rod on a spaced support and controlling its operation by a pattern-controlled device. TTD:2-46.

KNITTING MACHINE. Edwin Wildt, Henry H. Holmes and Albert H. Widdowson (to Wildt & Co., Ltd.). USP 2 391 665, Dec. 25, 1945.

A machine for knitting interlock fabric with transferred stitch or loop effects has a cylinder needle selecting mechanism employing an intermittently rotating selector drum, operating so that any desired cylinder needle can be caused to transfer a stitch to a directly opposite dial needle. TTD:2-46.

KNITTING NEEDLE. H. W. Donisthrope (F. N. F. Ltd.). Brit. P. 569 269. *Textile Mfr. 72,* 497 (Nov. 1945).

Knitting needles are made by flattening one end of a tubular needle, removing a portion of the flattened end and bending the remaining portion into a hook. TTD:2-46.

KNITTING POUCHES. H. H. Holmes (to Wildt & Co., Ltd.). Brit. P. 569 668. *Textile Mfr. 72,* 498 (Nov. 1945).

A circular knitting machine is fitted with a pouching device having a slotted weight bearing at least 1 claw to engage the fabric on the side where a pouch is to be formed. The slot permits the weight to move so as to position the claw for engaging the fabric. TTD:2-46.

TECHNOLOGIE DER RASCHELMASCHINE (Technology of Raschel knitting machines). Alfred Oelsner. Konradin Verlag, Berlin, 1942; 100 pp.

Reviewed in *Textil och Konfektion 2,* No. 10, 24-25 (Dec. 1945). TTD:2-46.

Knitting machine parts — IV 4 b

CHENILLE YARNS. K. Bauer. Brit. P. 569 288. *Textile Mfr. 72,* 497 (Nov. 1945).

A machine for making chenille yarn has an improved spindle and flyer assembly. The flyer is easy to remove or replace on the spindle and will not come off of itself, no matter which direction the spindle rotates. The arrangement also permits flyers to be located on the spindles so that their path can intersect the circles in which adjacent flyers rotate. TTD:2-46.

TOPPING BAR. Arnold F. Verbeek (to Kalio, Inc.). Can. P. 431 514, Nov. 27, 1945.

A topping stand for use on knit fabrics has a bar with 2 topping point sections pivoted on a support to permit a relative swinging motion. A transfer bar with means for transferring loops has a comb for forcing fabric from the topping points to the transfer points, and a cutter for severing the fabric when in position. TTD:2-46.

Control devices — IV 4 c

STOP MOTION. Julius A. Wagner (to Western Electric Co., Inc.). USP 2 390 904, Dec. 11, 1945.

A stop motion for knitting machines employed in knitting fabric jackets for insulated electric wires has an oscillator connected to a cam which actuates the stop motion when a strand breaks or reaches its end from the cop. TTD:2-46.

FABRIC FEED. Samuel Cohn & Jules G. Walter. USP 2 391 547, Dec. 25, 1945.

A feed device for supplying knit goods to a finishing machine feeds tubular knit fabric to the finishing rolls while maintaining a regular and uniform spread of the fabric. TTD:2-46.

KNITTING HALF HOSE. Henry H. Holmes (to Wildt & Co., Ltd.). USP 2 391 625, Dec. 25, 1945.

A pouch compensating mechanism for circular knitting machines employed in knitting heel and toe pouches for half hose automatically applies the desired auxiliary tension during knitting of the pouch and returns to its inoperative position after completion of a pouch. TTD:2-46.

HOSIERY KNITTING. Arthur N. Cloutier (to Hemphill Co.). USP 2 392 312, Jan. 8, 1946.

The dial of a circular independent needle knitting machine is driven in synchronized rotation with the cylinder which carries the latch needles and their cooperating sinkers. Elimination of double-jack control is made possible by control of alternate needles.

With improved bits, allowing spreading of loops to a greater extent than heretofore, transferring loops is rendered more secure. Seamless hosiery with inturned welt may be knit. TTD:2-46.

PATTERN KNITTING. A. Shortland (to Mellor Bromley & Co. Ltd.). Brit. P. 569 203. *Textile Mfr. 72,* 496-7 (Nov. 1945).

A patterning device for circular knitting machines has a bank of individual selectors, biased so that normally they are held away from the needle butts. All the selectors can be moved into the range of butts against the bias and permitted to return to position. TTD:2-46.

KNITTING PATTERNS. Arthur L. Hutton, Jr., Isaac H. C. Green & Eugene St. Pierre (to Hemphill Co.). Can. P. 431 828, Dec. 11, 1945.

A device for controlling tuck stitch and horizontal striping operations in a circular independent needle knitting machine carries a series of pattern conformations in rows, each row controlling the production of an independent pattern. TTD:2-46.

Fabric construction — IV 4 d

SLIP COVER. Jos. A. Krasnov & Max M. Kuller. Can. P. 432 054, Dec. 25, 1945.

A self-conforming slip cover for furniture is knit of fabric panels containing a major proportion of soft cotton yarn loops and a minor proportion of rubber thread which is stretched both wale-wise and course-wise to contract the fabric in 2 directions. Relatively inelastic snubber threads are introduced into the fabric along the rubber threads. TTD:2-46.

Pile fabrics — IV 5

PILE FABRICS. Robert G. Kavanagh (to LaFrance Industries). USP 2 391 835, Dec. 25, 1945.

A double faced pile fabric is woven, 2 pieces at a time, on a double shuttle plush loom in a single operation so that production is much more efficient than previous methods. TTD:2-46.

Narrow fabrics — IV 6

BRAID. Braiding or plaiting of fibers. Anon. *Fibers 6,* 154-5 (Nov. 1945).

Machines for braiding yarns of flax, hemp, jute, cotton, silk or synthetic fibers are described and illustrated, with some attention to the mechanical differences employed in making round products such as sash cord and fishing lines, flat braid for tape or elastic, and high pressure tubing which demands a precision braid. TTD:2-46.

NARROW FABRICS. Merely the trimming. A. Crossland, C. Dould & Son Ltd. *Textile Mfr. 72,* 461-2 (Nov. 1945).

Illustrated description of some designs in fancy cord, seaming lace, fringes, weltings, French crepes and

other narrow fabrics or braids. Among the products made of such fabrics are netting, rope pulls, curtain loops, dressing gown girdles and tassels. TTD:2-46.

TRANSMISSION BELT. George H. Stewart & Eugene R. Traxler (to B. F. Goodrich Co.). Can. P. 431 826, Dec. 11, 1945.

A V belt is made of fabric-covered rubber or similar resilient material enclosing a wire grommet in which the wire is wound in a spiral in one direction and the turns of wire are themselves wound with cord in the opposite direction. TTD:2-46.

WEFTLESS TAPE. Wm. C. Protz (to Nat'l Tinsel Mfg. Co.). Can. P. 432 163, Dec. 25, 1945.

A weftless composite tape has threads cemented together and paper strips interspersed between groups of these threads with the edges of the paper strips cemented along certain threads in a group. TTD:2-46.

TRANSMISSION BELT. Raymond S. Carter & Marvin L. Dorf (to Wingfoot Corp.). Can. P. 432 200, Dec. 25, 1945.

In making V-belts with a fabric outer surface and a rubber core the fabric is placed around the walls of a mold cavity, the rubber core is injected under pressure and the belt is vulcanized in a reversed position. TTD:2-46.

LINEN-COTTON WEBBING. Specification DTD 773. Ministry of Aircraft Production. London, July 1945; price 7d. TTD:2-46.

Fancy fabrics — IV 7

PATTERNS. Figured designs on four healds. W. Haigh. *Textile Mfr. 72,* 466-7 (Nov. 1945).

Fabrics which have every appearance of having been woven on a Jacquard loom but actually are produced by a much more simple method are described and illustrated. No more than 4 shafts are required for any of these designs and a plain pick is inserted after each pick of the pattern. TTD:2-46.

WEAVING. Weaving of clean dyed yarns. Anon. *Wool Record & Textile World 68,* 902, 904 (Nov. 22, 1945).

Methods employed in making fancy wool fabrics are discussed with special reference to fabrics for women's wear and for small products such as scarves and squares. TTD:2-46.

WOOL GOODS. Fancy wool dress cloths. Portex. *Wool Record & Textile World 68,* 752, 754, 802, 804 (Nov. 1 & Nov. 8, 1945).

A brief survey of methods for blending and dyeing wool, yarns or fabrics to obtain fine dress fabrics in desired colors and patterns. Tweed suitings designed especially for export are described in detail as to weave and structure. TTD:2-46.

Fabric processing — IV 8

STENTER DRIVE. J. Dalglish & K. S. Laurie. Brit. P. 568 965, *Textile Mfr. 72,* 496 (Nov. 1945).

A synchronized drive for stenters has individual drives for each stenter chain, so arranged that increase of drag torque decreases the speed. TTD:2-46.

SHRINKING FABRIC. George A. Schreiner (to Cluett, Peabody & Co., Ltd.). Can. P. 431 811, Dec. 11, 1945.

A cloth shrinking machine in which a belt runs first onto an inlet roll and then onto the heated cylinder has curved holders of tempered steel for holding the fabric on the belt. The tips of these holders are electrically heated and are controlled by a thermal switch so that the heat cannot rise to a temperature which would remove the temper. TTD:2-46.

Fabric applications — IV 9

COTTON FABRIC. Specification DTD 583 (3 ounce): DTD 624 (2.5 ounce); DTD 633 (3.75 ounce). Amendment lists numbers 2, 1, 3. Ministry of Aircraft Production, London, Sept. 1945; price 2d each. TTD:2-46.

Coated products — IV 9 b

COATED FABRICS. New thermosetting resin. Anon. *Can. Textile J. 62,* No. 24, 14 (Nov. 30, 1945).

News note concerning Paraplex P-10, a new resin for single or multiply decorative fabrics in a variety of applications such as automotive, airplane and furniture upholstery, wall coverings, shower curtains, drapes and other uses requiring flexibility and fastness to water and light. TTD:2-46.

KOROSEAL. Plastic shower curtain rack completely changes dress of model bathroom. Anon. *Linens & Domestics 31,* No. 2, 52, 56 (Nov. 1945).

Koroseal is now available for domestic products and is being used in the production of tablecloths, bath mats, cottage curtains, shower curtains, bedspreads, upholstry and many other products. TTD:2-46.

SHOE STIFFENER. Edwin L. Beckwith & Adelbert P. Swett (to Beckwith Mfg. Co.). USP 2 390 347, Dec. 4, 1945.

Resin-impregnated fabric shoe stiffeners which need no solvent treatment to render them plastic during the lasting operation contain a blend of Vistanex or other polymers with rosin or the like. The proportion of polyisobutene (Vistanex) or like polymer may range up to about 7%. TTD:2-46.

IODIZED FABRIC. Charles R. H. Ritter. USP 2 390 391, Dec. 4, 1945.

Iodized fabrics for surgical use are prepared by impregnating the fabric with isinglass and iodine, with or without sugar or glycerin. Such a fabric is stable

in storage but readily gives off its full iodine strength when soaked in water. TTD:2-46.

PATTERN EFFECTS. Wm. H. von Glahn & Wm. L. Walsh (to Gen. Aniline & Film Corp.). USP 2 390 903, Dec. 11, 1945.

Pattern effects resembling lace or embroidery are produced on rayon or like fabrics or on cotton goods by treating the fabric with a sulfate of an amine such as triethanolamine, ethylenediamine, cyclohexylamine or its derivatives, pyridine, piperidine or morpholine. Fabric which is treated in this way and baked becomes friable so that it can be readily powdered and removed. Pattern effects are imparted by printing with an alkaline paste which protects the fabric over the printed areas. TTD:2-46.

IMPREGNATING COMPOSITION. Geo. J. Underwood (to Hercules Powder Co.). USP 2 391 368, Dec. 18, 1945.

A composition for impregnating fibrous materials includes a water soluble phenol-aldehyde resin, an aqueous emulsion of a residue from refining rosin, and casein dissolved in the alkaline emulsion. TTD:2-46.

ABRASIVE SHEETS. Edwin W. Colt, Leonard B. Lane & Julian L. Beatty (to Armour & Co.). Can. P. 431 486, Nov. 27, 1945.

Abrasive sheet material is made of a pile fabric with a heavy irregular coating of abrasive particles cemented both to the fabric base and to the pile filaments so as to present a deeply rutted abrasive surface. TTD:2-46.

Laminates — IV 9 c

LAMINATES. Weave as it affects glass cloth laminates. Fred J. Meyer & Erven White, Owens-Corning Fiberglas Corp. *Modern Plastics 23,* No. 3, 137-9 (Nov. 1945).

Tests with plain woven glass fabrics indicate that the highest strength in glass cloth resin laminates is obtained with the thinnest cloth. Satin weaves and glass fiber mat products do not have the strength of woven cloth laminates but they have certain other advantages and have many potential uses within their range of strength. TTD:2-46.

WATERPROOF LAMINATES. J. C. Nicholson (to Brit. Artificial Resin Co. Ltd.). Brit. P. 569 116. *Textile Mfr. 72,* 496 (Nov. 1945).

Laminates are made with an outer layer of fabric having an outer weave of glass fiber and an interlocking inner weave of absorbent fibers such as cotton. The outer layer is coated with a thermosetting, water-resistant resin which is cured by the laminating operation. TTD:2-46.

HOLLOWS. Bruno Jablonsky. Can. P. 431 453, Nov. 27, 1945.

Hollow shaped articles are made from bonded laminated fibrous products by cutting and arranging the

laminations in the desired shape and setting the bonding agent by molding under heat and pressure.
TTD:2-46.

SWEAT BAND. Daniel C. Lippmann (to Camille Dreyfus). Can. P. 431 887, Dec. 11, 1945.

A hat sweat band is made by cementing cellulose acetate foil to a layer of acetate rayon with a nitrocellulose cement. In an example a layer of acetate taffeta is applied to both faces of the acetate foil.
TTD:2-46.

Specialty uses **IV 9 d**

FIRE ESCAPE. Arthur E. McDonnell. USP 2 390 955, Dec. 11, 1945.

A canvas fire escape which is adapted for inflation at a low pressure with a large volume of air, such as is available from standard fire fighting equipment, is constructed as a shortened cylinder fitted with shock absorbing means such as elastic shock cords. Seams may be sealed with rubber cement or the like, and the canvas may be coated to increase its strength and durability. TTD:2-46.

HEAD PROTECTOR. Paul C. O'Brien (to Hat Corp. of Am.). USP 2 391 335, Dec. 18, 1945.

A shell of stiffened fabric is made to fit around the wearer's head, with recesses for the ears, and with outward bulges to protect the temples without interfering with the wearer's vision. TTD:2-46.

BULLETPROOF TANK. Ewell C. Phillips. USP 2 391 477, Dec. 25, 1945.

A self-sealing lining for gasoline tanks is constructed with a chrome-tanned cowhide layer next to the tank, then a laminate of sponge rubber between 2 layers of crude rubber, then another layer of chrome-tanned cowhide and finally for the inner surface a fabric impregnated with a synthetic rubber. TTD:2-46.

SOUNDPROOFING. Alvin B. Richards & Harold S. Atherton (to Ford Motor Co.). USP 2 391 515, Dec. 25, 1945.

Soundproofing for airplane cabins and the like is made by enclosing batts of kapok, rock wool, cotton or felt between quilted gauze sheets and attaching these sheets to the metal skin of the airplane structure. A preferred construction uses aluminum-coated cloth as the outer cover and a trim cloth as the inner cover for the fiber batt. TTD:2-46.

SHOE SOLE. Jon Gregg. USP 2 391 564, Dec. 25, 1945.

An inner portion of an outsole is made of a porous material enclosed in a layer of textile fabric which includes a sufficient number of thermosetting strands to act as a binder. TTD:2-46.

TIRE FABRIC. Wm. Whitehead (to Camille Dreyfus). Can. P. 432 207, Dec. 25, 1945.

In making tire fabric about 0.5 to 10% of acetate rayon is incorporated with a regenerated cellulose

rayon in the form of a warp sheet which is then subjected to acetone vapor so that the acetate filaments coalesce at least on the surface of the regenerated cellulose filaments. TTD:2-46.

COTTON AND WIRE TARGET FABRIC. Specification DTD 664, Ministry of Aircraft Production, London, July 1945; price 7d. TTD:2-46.

RAYON FABRIC FOR FLARE PARACHUTES. Specification DTD 651. Ministry of Aircraft Production, London, Sept. 1945; price 7d. TTD:2-46.

CHEMICAL RAW MATERIALS V

Plastics **V 1**

MOLDING COMPOSITIONS. SPI classifications of plastics molding materials. Anon. *Plastics 3,* No. 5, 56-58, 121-4 (Nov. 1945).

Molding compositions composed of synthetic resins or cellulose derivatives, with fillers including such fibrous products as cotton flock, cotton rag, alpha-cellulose and the like. Tabulated data show physical properties and resistance of the molded plastics to a variety of mechanical and chemical exposure conditions.
TTD:2-46.

PLASTICS IN GERMANY. G. M. Kline. *Modern Plastics 23,* No. 4, 157-72 (Dec. 1945).

Adhesives, resins, solvents and plasticizers made by I. G. Farben in Germany during the war are listed and their physical properties are stated. Among the products made in Germany from these plastics were resin-impregnated paper battery containers for U-boats. There were also numerous actual and potential applications of lacquers and resins to paper and textiles.
TTD:2-46.

SURFACE FILMS of polymers. I. Films of the fluid type. D. J. Crisp, Cambridge Univ. *J. Colloid Science, 1,* 49-70 (Jan. 1946).

Among films formed by spreading high polymers on water low internal cohesion favors rapid spreading and high internal cohesion prevents complete spreading. Film character depends on the balance between lateral attractions at the surface and water-attracting properties of the polar groups. Specific area occupied per monomer unit is independent of the molecular weight. The films are classified in 4 groups: 1. Amorphous, usually soft polymers giving soft films gelating (i. e. acquiring elasticity of shear) at high surface pressures (20-30 dynes/cm), e. g. polyvinyl acetate, polyacrylates, cellulose ethers. 2. Amorphous, usually tough or brittle polymers with coherent films gelating at low surface pressures (0-10 dynes/cm), e. g. polymethacrylates. 3. Semicrystalline polymers with weakly hydrophilic groups, spreading incompletely to unstable solid films, e. g. nylon (on neutral substrate), cellulose nitrate and acetate. 4. Semi-crystalline polymers with strongly hydrophilic groups which spread spontaneously from the solid giving fluid films collapsing at low sur-

face pressures (0-5 dynes/cm), e. g. polyvinyl alcohol, polyacrylic and polymethacrylic acid on acid substrates. Data from film balance measurements are in general agreement with known intermolecular dimensions and molecular structures. TTD:2-46.

PLASTIC SHEETS. Donald Finlayson & Harry Crawshaw (to Camille Dreyfus). Can. P. 432 041, Dec. 18, 1945.

Sheets of plastic material with low elasticity are reinforced with textile yarns of the same order of elasticity with or without metal wires interspersed among the reinforcing yarns. The plastic is then molded to the desired shape under pressure. The plastic may be a 4-shaft satin and the reinforcing yarns may be made of high tenacity rayon made by stretching acetate rayon and hydrolyzing. TTD:2-46.

HANDBOOK OF LAMINATED PLASTICS. Catalog of Taylor Fiber Co., Norristown, Pa. 1945; 54 pp.

Reviewed in *Modern Plastics 23,* No. 3, 181 (Nov. 1945). TTD:2-46.

PLASTICS, SCIENTIFIC AND TECHNOLOGICAL. H. Ronald Fleck, Temple Press Ltd. London, 1943. Ed. 1, 325 pp. price 25s.

Reviewed in *J. of the Textile Institute 36,* P187-8 (Nov. 1945). TTD:2-46.

PROPERTIES AND USES OF SILICONES. Booklet of Dow Corning Corp. Midland, Michigan, 1945.

Reviewed in *Plastics 3,* No. 5, 114 (Nov. 1945). TTD:2-46.

TECHNOLOGY OF PLASTICS & RESINS. J. Philip Mason & Jos. F. Manning, D. Van Nostrand Co., Inc. New York City, 1945; 493 pp.; price $6.50.

Reviewed in *Plastics 3,* No. 5, 116 (Nov. 1945). TTD:2-46.

Cellulose derivatives — V 1 a

CELLULOSE. Hydrolysis and catalytic oxidation of cellulosic materials. R. F. Mickerson and J. A. Habrle, Mellon Institute. *Ind. Eng. Chem. 37,* 1115-18 (Nov. 1945).

Glucose, cellobiose, cotton linters, and a series of derived hydrocelluloses were examined by the hydrolysis-oxidation method in search of new information on linters structure and on the method itself. Data on CO_2 evolution are reported for these materials and for a 3.3% dextrose-96.7% hydrocellulose mixture that simulates intact linters. Other variables investigated include moisture adsorption and insoluble matters recoverable after hydrolysis-oxidation runs. The initial linters appeared to contain as distinguishable parts by weight 3% highly disordered, 94% highly ordered, and 3% transitional components. The highly disordered component is readily differentiated by its hygroscopic nature and hydrolytic susceptibility, and the crystalline or ordered component by its uniformly low hydrolytic reactivity. A single hydrolysis-oxidation run is probably insufficient to characterize a sample, but the differential approach may be used advantageously. Eight references. TTD:2-46.

CELLULOSE ESTERS. George W. Seymour & Blanche B. White (to Celanese Corp. of America). USP 2 390 185, Dec. 4, 1945.

Mixed cellulose esters of a short chain and a long chain aliphatic acid, e. g. cellulose acetate-stearate, are made by esterifying the cellulose first with a chloride of the long chain acid and then acetylating, propionating or butyrating the resulting ester. As an example cotton linters are stearylated in a benzene solution of pyridine and the resulting cellulose stearate is acetylated in presence of H_2SO_4 as esterification catalyst. TTD:2-46.

CELLULOSE ESTERS. Clifford I. Haney & Mervin E. Martin (to Celanese Corp. of Am.). USP 2 391 569, Dec. 25, 1945.

Cellulose is sensitized to esterifying agents by pretreatment with a mixture of propionic or butyric acid, 5% of formic acid (calculated on the weight of cellulose) and a small proportion of H_2SO_4. TTD:2-46.

CELANESE SYNTHETICS FOR THE ELECTRICAL INDUSTRY. Bulletin of Celanese Corp. of Am., New York City 16, 1945.

Reviewed in *Modern Plastics 23,* No. 3, 181 (Nov. 1945). TTD:2-46.

Natural resins — V 1 b

FLYING FUEL TANK. Anon. *Modern Plastics 23,* No. 4, 132-3 (Dec. 1945).

The fuel tank of the Skycycle, an experimental model of a single-seater airplane for private use, is made by impregnating a mat of sisal or like fiber with a powdered resin and molding the composition under heat and pressure. TTD:2-46.

Elastomers — V 2

ELASTOMERIC COMPOUNDS. Stephen J. Wilson, Bakelite Corp. *Modern Plastics 23,* No. 3, 111-5 (Nov. 1945).

Elastomeric resins of the Vinylite type may be calendered on a cloth base to make non-skid mats or stair-treads or can be extruded in flexible sheets or foils. These resins also have numerous uses on coated fabrics. TTD:2-46.

Adhesives — V 3

FIBER ADHESIVES. Chas. F. Brown (to U. S. Rubber Co.). USP 2 392 574, Jan. 8, 1946.

Thermosetting adhesive compositions bond natural or synthetic rubber to other surfaces, such as fibers and metals, more effectively than heretofore, e. g. in belting, tires, hose, fiber board, etc. They comprise a partially (50%-90%) hydrolyzed polyvinyl ester, a heat-hardenable phenolic resin, an inorganic oxidizing

agent (yellow HgO or red Fe_2O_3), and an alcohol solvent for the ester and resin. TTD:2-46.

RESYN ADHESIVES: WHEN AND HOW TO USE THEM. Handbook of Nat'l Adhesives Division, Nat'l Starch Products Inc., New York City, 1945.

Reviewed in *Plastics 3,* No. 5, 114 (Nov. 1945). TTD:2-46.

Surface active compounds **V 4**

FYBROL 1115. Folder of the Textile Chemicals Division, L. Sonneborn Sons Inc., New York City, 1945.

Reviewed in *Am. Dyestuff Reptr. 34,* 455 (Nov. 5, 1945). TTD:2-46.

NONISOL. Circular of Alrose Chemical Co., Cranston, R. I., 1945.

Reviewed in *Am. Dyestuff Reptr. 34,* 473 (Nov. 19, 1945). TTD:2-46.

NYTRON DETERGENT. Booklet of Solvay Process Co., New York City 6, 1945; 8 pp.

Reviewed in *Chem. Met. Eng. 52,* No. 11, 300 (Nov. 1945). TTD:2-46.

CHEMICAL PROCESSING **VI**

FINISHING RAYON. Preparation and finishing of rayon piece goods. C. P. Atkinson, Courtaulds, Ltd. *J. Textile Institute 36,* P171-6 (Nov. 1945).

A review of methods and equipment employed for desizing, scouring, creping, degumming, bleaching and dyeing Fibro, Rayolanda, Seraceta and other rayon piece goods. TTD:2-46.

GUAR GUM. A new sizing and finishing gum. Anon. *Am. Wool & Cotton Reptr. 51,* No. 47, 20 (Nov. 22, 1945).

News note concerning the use of guar gum as a substitute for locust bean gum in textile sizing and finishing. TTD:2-46.

BLANKETS. George S. Radford (to Nashua Mfg. Co.). USP 2 390 386, Dec. 4, 1945.

Nap yarns for making blanket fabrics are improved by incorporating in the yarn a suitable proportion of a heat-sensitive or solvent-sensitive fiber such as acetate rayon or a synthetic resin fiber which is rendered adhesive either by heat or by wetting with a solvent. Shedding of nap fibers is thereby greatly diminished. The required proportion of potentially adhesive fiber in the yarn ranges from about 5 to 20%. TTD:2-46.

Preparation **VI 1**

INFRARED DRYING in the textile industry. Paul Krupp, Fostoria Pressed Steel Corp. *Textile Recorder 63,* No. 752, 45-8 (Nov. 1945).

While infrared has many applications in the textile field, it is not a cure all nor will it yet eliminate conventional steam driers. In most cases reported by various companies, infrared units were installed as auxiliaries to conventional ovens and resulted in substantial production increases. It is thought such units can replace the steam cans of the last drying stage, thus saving much floor space. TTD:2-46.

OIL FOR WOOL. Modification of mineral oil to meet textile requirements. A. C. Goodings and H. Borden Marshall, Ontario Research Foundation. *Can. Textile J. 62,* No. 24, 44-47 (Nov. 30, 1945).

Mineral oil, normally unsatisfactory in scouring behavior, has been successfully modified by blending with mono—or diglycerides of acids from neatsfoot, palm, coconut or olive oil, or from lard. The blends are effective wool lubricants and scour quite as well as olive oil. TTD:2-46.

TENTER DRIER. Frank B. Morrill (to Jas. Hunter Machine Co.). USP 2 390 451, Dec. 4, 1945.

Tenter driers with warpwise draft are made with blowers at the sides instead of the ends of the runs of fabric, although the air current is discharged lengthwise of the run. Existing blowers may be supplemented by auxiliaries to recirculate air in their own paths. Placing the blowers of an end-draft drier on the sides allows the building of shorter, more compact machines, requiring less floor space for the same length of runs. The drying effect can be completely equalized across the width of the fabric, and any shading of the fabric is avoided. TTD:2-46.

DRYING TOW. Camiel de Brabander (to Am. Viscose Corp.). USP 2 390 572, Dec. 11, 1945.

Fibers such as viscose rayon tow are dried by the radio frequency method between 2 closely spaced sheet electrodes to which a high frequency current is applied. The electrodes are in a vacuum chamber through which the fiber is carried on a permeable insulating belt such as a glass fabric. Tow which is to be crimped is dried in 2 radio frequency stages. After the first stage the crimp is imparted, and set in the final drying stage. TTD:2-46.

WET PROCESSING. Am. Viscose Corp. Brit. P. 569 154. *Textile Mfr. 72,* 496 (Nov. 1945).

A running length of filaments is treated with liquid in an open groove into which a channel opens above the end of the groove to introduce fluid so that it flows down the groove along a length of filament. TTD:2-46.

Alkali baths **VI 5**

EMULSION. Florian Enderlin & Luzius Schibler (to Soc. of Chemical Industry in Basle). Can. P. 432 178, Dec. 25, 1945.

A paste for processing fibrous materials comprises an emulsion of a moderately high boiling organic liquid in an aqueous solution of Na caseinate in presence of resin-forming ingredients such as formaldehyde and thiourea, or formaldehyde and melamine. TTD:2-46.

Sizing — VI 6

SIZING. Good sizing is an investment. W. J. MacNab. *Fibers, Fabrics & Cordage 12,* 462-4 (Nov. 1945).

Locust bean gum requires no softener and gives excellent weavability when used alone. Since 1 lb. high grade locust bean gum equals 5 lb. starch in effect on weavability the workability of the sized yarn is much improved as compared with starch sizing. Some applications of locust bean gum to rayon staple fiber (viscose and acetate), linen and cotton are described. TTD:2-46.

SPUN RAYON WARP SIZING. Textile Research Institute, New York City, 1945; 91 pp; price $1.50. Reviewed in *Textile Research J. 15,* 424 (Nov. 1945). TTD:2-46.

Finishing — VI 7

FUTURE OF FINISHING. R. J. Smith, Imperial Chemical Industries, Ltd. *J. Soc. Dyers & Colorists 61,* 269-72, discussion 273 (Nov. 1945).

Finishing of fabrics will tend more and more in the future toward production of high grade finishes, applied by skilled workers to high grade fabrics under expert control. The fabrics will be designed for the finishes. The empirical methods which now predominate in selecting and applying finishes are already yielding to the greater precision of "tailor made" finishing. A few alkyd resins are suitable for textile application, although most of these resins are designed for use in lacquers and varnishes. Some of the nylons may be adapted to textile finishing, and Polythene is a particularly inert resin for application from emulsions. Several vinyl and acrylate resins have excellent properties for textile uses. It is probable that cellulose ether finishes will become more important than at present. TTD:2-46.

RESIN FINISHES. Synthetic resins used in new finishes for cotton roving & yarns announced by Dan River Mills. Anon. *Linens & Domestics 31,* No. 2, 74 (Nov. 1945).

News note concerning new products such as a yarn which is polished simultaneously with the curing of the synthetic resin bonding agent. Sewing thread, which is dyed and resin treated in the same operation, has high tensile strength and flexibility. TTD:2-46.

NONSLIP FABRICS. Otto Albrecht (to Soc. of Chemical Industry in Basle). USP 2 390 046, Dec. 4, 1945.

Fabrics in which the warp and weft threads tend to slip under moderate stresses are rendered much more slip-resistant by treatment with a solution or dispersion containing up to 1% of a compound having the formula RCH_2R' where R is a resinous or resinifiable radical and R' is a salt-forming group, preferably of the isothiourea type. Reaction products of phenol with rosin or

with dipentene are particularly suitable as the resinifiable component of the slip-preventing reagent. TTD:2-46.

PERMANENT FINISH. Kenneth H. Barnard & Boris Frankfurt (to Pacific Mills). USP 2 390 235, Dec. 4, 1945.

A laundryfast cellulosic finish for imparting a soft linen-like feel to cotton yarns or fabrics is applied by treating the yarn or fabric first with a water-insoluble cellulose derivative such as an alkali-soluble ether, and then with a coagulating bath which may be dilute H_2SO_4 in the case of alkali-soluble cellulose derivatives. The cellulose ether may be methylcellulose or a cellulose glycol ether. TTD:2-46.

DELUSTERING RAYON. Jesse Werner (to Gen. Aniline & Film Corp.). USP 2 390 975, Dec. 11, 1945.

Instead of the water-soluble salts of biguanide bases hitherto employed as binders for delustering pigments in rayon the free water-insoluble biguanide base is employed, with superior results. The biguanide base may have aliphatic radicals ranging in length from decyl to stearyl. TTD:2-46.

WEAR RESISTANCE. Tootal Broadhurst Lee Co. Ltd. Australian P. 120 228, *Textile J. of Australia 20,* 426 (Nov. 1945).

The wearing quality of fabrics is increased by treatment with resins comprising the polymerized esters obtained by condensing acrylic anhydride or the like with an active aldehyde such as formaldehyde. The interpolymers of alkyl and alkylidene acrylates are particularly useful because, though less soluble and less tacky, they retain the desirable softness of the alkyl esters. TTD:2-46.

COATING. Walter E. Hatch and Jackson H. Rollins (to La Salle Nat'l Bank). Can. P. 431 516, Nov. 27, 1945.

A hardenable glue mix adapted to coat fibrous surfaces is applied during an internal reaction which sets the coating. A suitable percentage composition is: glue 21.3, water 53.3, $NaNO_3$ 0.67, gelatin 2, glycerin 16, acetic acid 5.3, Na benzoate 0.17, Na perborate 0.5, hexamethylene-tetramine 0.67. The glycerin serves as a plasticizer and may be replaced by sorbitol if desired. TTD:2-46.

COLOR — VII

DYEING. Germany's wartime dyeing and printing. Frank S. Richardson, Waldrich Co. *Textile Bull. 69,* No. 6, 42, 44, 66-67 (Nov. 15, 1945).

A German shelter fabric which had high water repellency and abrasion resistance was found to be woven entirely of spun rayon, but at least 2 varieties of rayon were used. This fabric was made in a camouflage print. Several German methods of dyeing and printing fabrics for military and other purposes are described. TTD:2-46.

RAYON. Progress in rayons and textile auxiliaries. Outlook. *Silk & Rayon 19,* 1217-20, 1239 (Nov. 1945).

A review of recent advances in dyeing and printing Bemberg rayon, applications of phthalocyanin dyes, tests with fading lamps, making fibrous sheets without weaving, blends of rayon and nonfelting wool and the elastic properties of fibers. TTD:2-46.

Bleaching VII 1

BLEACHING. Anon. *Silicate P's & Q's 26,* No. 3, 1-2 (March 1946).

The J-box process for kier bleaching utilizes a saturator containing a bath of peroxide and soluble silicate. The J-box system permits a cloth speed of about 250 yds. per minute under favorable conditions.

TTD:2-46.

BLEACHING. Trends in bleaching cloth. J. Carlisle Farrow, Russell Mfg. Co. *Cotton* (Atlanta) *109,* No. 11, 104-6, 134 (Nov. 1945).

Illustrated description of current practice in kier boiling and bleaching fabrics, with emphasis on continuous bleaching as a modern improvement.

TTD:2-46.

BLEACHING. Hydrogen peroxide in the pulp and paper industry. H. O. Kauffmann, Buffalo Electro-Chemical Co. *Paper Trade J. 121,* TAPPI Section 185-90 (Nov. 8, 1945).

Hydrogen peroxide is a simple and effective bleaching agent for paper pulp. Because of higher cost the peroxides are not universally acceptable substitutes for chlorine bleaching agents but there are numerous applications in which the cost is compensated by less degradation of cellulose or by other technical advantages. TTD:2-46.

BLEACHING. Sodium chlorite in pulp bleaching. G. P. Vincent, L. E. Russell & Vernon Woodside, Mathieson Alkali Works. *Paper Trade J. 121,* TAPPI Section 191-2 (Nov. 15, 1945).

Bleaching with Na chlorite permits high brightness without degrading the cellulose. A chlorite bleach may be activated by acid, hypochlorite or chlorine. The technique of chlorite bleaching is discussed.

TTD:2-46.

BLEACHING. Technologist. *Fiber 6,* 151-3 (Nov. 1945).

Difficulties encountered in bleaching linen are not due to pectins, as has been supposed, but to natural waxes occurring on the linen fiber. Methods of dewaxing are described and improvements in bleaching methods and equipment are discussed. TTD:2-46.

BLEACHING. Hans O. Kauffmann & Paul H. Margulies (to Buffalo Electro-Chemical Co., Inc.). USP 2 391 710, Dec. 25, 1945.

In peroxide bleaching of cotton or rayon goods having a pattern dyed thereon with naphthol dyes the undyed portion is effectively bleached while the dyed portion is increased rather than decreased in fastness. This effect is obtained by introducing into the peroxide bath a mild alkali (pH below 9) and a freshly precipitated magnesium compound providing a latent alkalinity. TTD:2-46.

TEXTILE BLEACHING. Hans O. Kauffmann, Edw. S. Shanley & Robt. L. McEwen (to Buffalo Electro-Chemical Co., Inc.). USP 2 391 905, Jan. 1, 1946.

A method of treating textiles with alkaline solutions, as for bleaching or kier boiling, improves over other methods by the use of J-shaped chutes through which the goods are passed in treatment. Foreign matter initially removed by the alkali is largely prevented from settling back upon the goods. Passage through the J-chutes is by gravity, accompanied by a preliminary wash that reduces the caustic content of the goods. TTD:2-46.

Dyeing VII 2

CELLULOSE REACTIONS. Effect of vat dyes on the rate of oxidation of cotton by hypochlorite solutions. D. A. Clibbens & A. H. Little. *Shirley Institute Memoirs 19,* 379-386 (Nov. 1945).

Certain green, blue and black sulfur dyes and vat dyes accelerate the oxidation of cotton cellulose by hypochlorite. The effect is not influenced by light but is active only in acid hyprochlorite solutions, under conditions which do not ordinarily arise in technical processes. Many vat dyes accelerate the photochemical oxidation of cotton cellulose; these are mostly yellow, orange or red dyes. Tendering of cotton by hypochlorite in absence of light and of accelerating components is an oxidation reaction which is sensitive to acid and decreases rapidly in activity as the pH falls from 7 to 4.5. This rule generally does not hold if the oxidation is accelerated photochemically, catalytically or by induced oxidation. TTD:2-46.

DYE FASTNESS. Low cost and color fastness. Jos. L. Wauters. *Southern Knitter 9,* No. 11, 38, 64-65 (Nov. 1945).

Some difficulties encountered in obtaining fast shades on socks are discussed. In dyeing cotton hosiery the pectins present in raw cotton are sometimes able to exert a sufficient reducing action to alter the shade of certain direct and azo dyes. Some dye baths are thrown off shade by prolonged boiling. Requirements for satisfactory chemicals to be used in scouring and dyeing are listed. TTD:2-46.

DYEING. Editors take a look at pad-steam and multi-lap. Anon. *Textile Bull. 69,* No. 6, 30, 32 (Nov. 15, 1945).

Illustrated description of the pad-steam and multi-lap machines for vat dyeing as operated in the Chambers Works of the DuPont company. TTD:2-46.

DYEING. Some notes on garment dyeing. T. F. Hall. *Textile J. of Australia 20,* 449-50 (Nov. 1945).

Current methods are described for dyeing garments with union dyes, or by the 2-bath method with acid and direct dyes or in a single bath with a combination of direct dyes and neutral-dyeing acid colors.

TTD:2-46.

DYEING. Pad-steam continuous dyeing process. Paul Meunier, E. I. duPont de Nemours & Co. *Can. Textile J. 62,* No. 24, 38-43 (Nov. 30, 1945).

A lecture. TTD:2-46.

DYEING COTTON. Dyeing loose cotton for the fancy woolen manufacturer. A. Ellis. *Textile Weekly 36,* 798, 800, 802, 804, 806, 850, 852, 898, 900, 902 (Oct. 26, Nov. 2, 9, 1945).

Details to be observed in dyeing loose cotton goods are discussed with particular reference to the treatment of strip cotton, laps, roving waste and roller ends employed by wool manufacturers in blends.

TTD:2-46.

DYEING OF RAYOLANDA. W. Penn, Courtaulds, Ltd. *Can. Textile J. 62,* No. 22, 38-40, 45 (Nov. 2, 1945).

Directions are given for the application of direct-sulphur, azo, vat, acid, Neolan, Palatine and chrome dyes to Rayolanda (wool type rayon). TTD:2-46.

DYEING RAYOLANDA. W. Penn, Courtaulds, Ltd. *Textile Mfr. 72,* 486-7, 489 (Nov. 1945).

Directions are given for application of a wide variety of dyes to Rayolanda, a modified rayon which permits many novel effects in blends with other fibers or in cross dyeing and discharge printing. TTD:2-46.

DYEING WOOL. Colored effects on wool by new methods. Edgar I. Noble, Sandoz, Ltd. *Textile J. of Australia 20,* 433-4 (Nov. 1945).

Of the various experimental methods for producing tone-in-tone and 2-color effects in a single dyeing operation 2 are commercially satisfactory. One is to take advantage of the difference in drying properties between chlorinated wool and ordinary wool. The other is to boil wool with formaldehyde, R salt and H_2SO_4, then to bake it under specified conditions. The treated wool has sufficient resistance to piece dyes to permit tone-in-tone effects. TTD:2-46.

FIBER DYEING. Mechanism of the direct or substantive dyeing of cellulosic fibers. Robt. E. Rose. *Textile Research J. 15,* 383-8 (Nov. 1945).

The work of several different researchers into the dyeing properties of cotton, viscose and acetate rayon, nylon, silk, and wool is critically reviewed. Correlation of fiber structure and dyeing properties is discussed and the rates of dyeing on the fibers are compared. TTD:2-46.

FIBRO. Notes on dyeing and finishing of Fibro. C. C. Wilcock, Courtaulds, Ltd. *Textile Mfr. 72,* 488-9 (Nov. 1945).

Since Fibro is largely used in dress goods, crease resistance is an important property and the application of crease-resistant finishes complicates the dyeing problem. Instructions are given for proper dyeing of crease-resistant Fibro fabrics and for control in the drying operation to prevent deterioration while effecting the setting of the crease-resistant resin.

TTD:2-46.

OVERCOATING. Stock dyed overcoating. Anon. *Am. Wool & Cotton Reptr. 51,* No. 47, 14 (Nov. 22, 1945).

Suggestions are presented for dyeing blended overcoating stock containing 40% wool and 60% reprocessed stock. Methods of scouring, extracting and fulling and of applying chrome and chromate mordants in the dye bath are discussed. TTD:2-46.

DYEING NYLON. E. G. Cockbain, J. L. Mailliet & W. Todd (to Imperial Chemical Industries, Ltd.). Brit. P. 569 170. *Textile Mfr. 72,* 496 (Nov. 1945).

Nylon filaments are dyed by dispersing a pigment such as cadmium red in an equal weight of an ester-amide of relatively small molecular magnitude. About 2% of this dispersion is incorporated in a nylon melt at 80-90°C. TTD:2-46.

DEVELOPED DYES. George P. Vincent & Archie L. Dubeau (to Mathieson Alkali Works). Can. P. 431 844, Dec. 11, 1945.

In the application of sulfur dyes and vat dyes to cellulosic textiles the oxidation reaction required to develop the dye or to improve its shade or fastness is effected by treatment in dilute Na chlorite solution at a pH of 8-10, buffered with $NaHCO_3$, at 130-140°F.

TTD:2-46.

TEXTILE DYEING. Cyril M. Croft & Walter H. Hindle (to Camille Dreyfus). Can. P. 432 327-8-9, Jan. 1, 1946.

Fabric containing acetate type yarns is dyed by padding with an aqueous alcoholic solution (at least 70% alcohol) of the dye, and then drying rapidly at an elevated temperature. A second process employs as solvent aqueous acetone (about 40 wt.-% acetone).

TTD:2-46.

CIBANONE GREY 2GR. Circular No. 561/843, Ciba, Ltd. Basle, Switzerland, 1945.

Reviewed in *Indian Textile J. 56,* No. 662, 147 (Nov. 1945). TTD:2-46.

DISCHARGEABLE DIRECT DYESTUFFS ON VISCOSE RAYON. Pattern card from Imperial Chemical Industries, Ltd., London, 1945.

Reviewed in *Silk & Rayon 19,* 1230 (Nov. 1945). TTD:2-46.

DYEING. Colors for textiles: ancient and modern. Max Bender, Interchemical Corp. *Interchemical Review 4,* 75-87 (Autumn 1945).

A review (19 references). TTD:2-46.

DYEING OF NYLON TEXTILES. Booklet of Imperial Chemical Industries, Ltd. Manchester, Eng.; 1944.

Reviewed in *Textile Recorder 63,* No. 751, 54, 56, 58; No. 752, 51-2, 54 (Oct., Nov., 1945). TTD:2-46.

INVESTIGATIONS INTO THE CONDITIONS AFFECTING RATE OF DYEING. T. Vickerstaff. Technological Monograph No. 1. Imperial Chemical Industries, Ltd. London, 1945.

Reviewed in *J. Textile Institute 36,* P188 (Nov. 1945). TTD:2-46.

MICROSCOPICAL TECHNICS FOR THE STUDY OF DYEING. Tech. Bull. No. 770, Calco Chemical Division, Am. Cyanamid Co., Bound Brook, N. J. 1945.

Reviewed in *Textile Bull. 69,* No. 5, 34-35 (Nov. 1, 1945). TTD:2-46.

Printing — VII 3

PRINTING. Plastic printing and metal printing gives fabrics novelty appeal. Margot Duff. *Fibers, Fabrics & Cordage 12,* 447-9 (Nov. 1945).

Plastic or lacquer printing gives a slightly raised surface and offers good fastners to ordinary wear and drycleaning. It has been successfully applied to several rayon staple fabrics. Another novelty is a revival of the old art of metal printing on fabrics in gold, silver and other effects. TTD:2-46.

PRINTING VAT DYES. Roy H. Kienle & Chester A. Amick (to Am. Cyanamid Co.). USP 2 391 836, Dec. 25, 1945.

A printing assistant which produces satisfactory color intensity without deteriorating the printing paste, and which is cheap and easy to prepare, comprises a salt or mixture of salts of the monoquinonylamides of dicarboxylic acids such as fumaric, maleic, succinic or phthalic acid. The quinonyl radical may be derived from anthraquinone. Cotton and rayon fabrics are printed with these pastes. TTD:2-46.

Color defects — VII 5

COLOR FASTNESS. Kemmek. *Fibers, Fabrics & Cordage 12,* 452-465 (Nov. 1945).

The factors involved in fastness of dyes on fabrics are considered and the complexity of relations between dye and fiber is discussed as related to service conditions resulting in dye failure. TTD:2-46.

DYE SETTING. Setting yarn-dyed cloths. Anon. *Dyer 94,* 429-30 (Nov. 23, 1945).

Setting yarn dyed fabrics is difficult, especially in wet processing, largely because wool fibers enter into chemical combination with many dyes. For this reason faults are often found in yarn dyed goods which do not occur in piece dyed goods. Setting during dry finishing is less difficult since the blowing operation is not so drastic as crabbing and steaming. Suggestions are offered for prevention of uneven shrinkage and other defects commonly encountered. TTD:2-46.

DYED RAYON. H. C. Olpin & S. A. Gibson (to Brit. Celanese). Brit P. 569 557. *Textile Mfr. 72,* 498 (Nov. 1945).

Gas fading of dyed cellulose ester or ether rayons is prevented by addition of a small proportion of a water-soluble aldehyde-aminotriazine resin to the rayon. TTD:2-46.

PROOFING — VIII

AIRPLANE DOPE. Monsanto develops "Skylac" lacquer for plane fabric. Anon. *Textile Bull. 69,* No. 6, 56 (Nov. 15, 1945).

News note concerning a new dope for fabric-covered surfaces of airplanes. The new lacquer acts not only as an impervious finish but as a tautening agent on the fabric, thus increasing the structural strength. TTD:2-46.

ANTIMICROBIC AGENTS. Relative toxicity of disinfectants recommended for use in the paper industry. John W. Appling & John F. McCoy, Institute of Paper Chemistry. *Paper Trade J. 121,* TAPPI Section 181-4 (Nov. 8, 1945).

Nine disinfectants are compared as to antimicrobic principle, basis of cost per pound, and basis of cost and toxicity considered jointly. For successful application of cost-toxicity data it is essential to know the types of microorganisms to be combated. Some of the antimicrobic agents were selected for their mildewproofing activity. The tests showed good potency for agents containing Na pentachlorophenate. TTD:2-46.

CREASE RESISTANT FINISHES. Arthur R. Wachter, Am. Viscose Corp. and C. C. Wilcock, Courtaulds, Ltd. *Am. Dyestuff Reptr. 34,* P464-5, P465-6 (Nov. 19, 1945).

A significant difference between British and American practice in the application of melamine resins for creaseproofing fabrics is that British operations are planned to relieve tension as much as possible from the fabric being handled. Goods are not rolled or batched after single operations but only when they are ready to be shipped. The overfeed pin stenter employed in British practice makes it possible to dry fabrics under controlled minimum tension. Precautions to be observed in resin application are discussed. TTD:2-46.

DDT. Anon. *J. Textile Institute 36,* P193-6 (Nov. 1945).

A review of the development of DDT as an insecticide, and comments on its potential uses as a mothproofing agent and as an agent for delousing or louseproofing garments. TTD:2-46.

FINISHING. Wet processing in Germany. Frank S. Richardson, Waldrich Co. *Am. Dyestuff Reptr. 34,* P463, P466 (Nov. 19, 1945).

Methods and equipment employed in Germany for rendering fabrics water-repellent for dyeing, printing, bleaching and enzyme desizing and for drying processed fabrics are reported as observed on a mission for the Quartermaster General. TTD:2-46.

MILDEWPROOFING. Stocks resistant to mildew. J. P. Callahan. *Nat'l Canvas Goods Mfrs. Rev. 21,* No. 8, 34 (Nov. 1945).

Requirements for effective mildewproofing compounds for tennis nets, fish lines, awnings, tents, tarpaulins, shoe linings and other fabrics are listed. In addition to mildewproofing the treated fabrics have other advantages such as longer wear and greater resistance to soiling. TTD:2-46.

ROTPROOFING FABRICS. Study of the effect of leaching on the rotproofing efficacy of copper naphthenate. C. H. Bayley & M. W. Weatherburn, Nat'l Research Laboratories (Canada). *Am. Dyestuff Reptr. 34,* 457-60, 471-3 (Nov. 19, 1945).

The rotproofing effect of Cu naphthenate on cotton fabrics is impaired by leaching in water. The deterioration is not due to extraction of Cu during leaching, but apparently to a change of the Cu naphthenate to a solvent-insoluble form. Wax tends to prevent the deterioration but asphalt does not. The pH of the water apparently does not influence the effect. TTD:2-46.

SHRINKAGE. More about shrinking of woven fabrics. Stig Kjellstrand, Textile Institute of Boros. *Textil och Konfektion 2,* No. 10, 42 (Dec. 1945).

New data on shrinkage of woven fabrics are presented to supplement and clarify Kjellstrand's previous paper on the same subject. The new data relate to poplin, flannels and twills. TTD:2-46.

SHRINKAGE. What are we doing about it? D. H. Powers, Monsanto Chemical Co. *Textile Recorder 63,* No. 752, 49-50, 54 (Nov. 1945).

Shrinkage is concomitant with stretching in wool processing. Three ways of combating shrinkage, mechanical, chemical and resinous, may be used independently or in various combinations. The mechanical method is usually a steaming operation, e. g. sanforising. The chemical offers difficulties of application. The resinous methods are of relatively recent origin and have been used much with rayons. TTD:2-46.

SHRINKPROOFING WOOL. TBL's new antishrink process for woolens. Anon. *Textile Colorist 67,* 122-3 (Nov. 1945).

Illustrated description of the new TBL alkali process for shrinkproofing wool at any stage in manufacture, whether tops, yarn, fabric or garment. The treatment has no effect on relaxation shrinkage, which is due to stretching of wool fibers during manufacture or finishing, and subsequent release of the tension. TTD:2-46.

TENT LIFE. Quartermaster Corps develops compound to prolong life of tents. Anon. *Nat'l Canvas Goods Mfrs. Rev. 21,* No. 8, 32 (Nov. 1945).

News note concerning a new paint-like composition for retreating cotton duck tents to increase water resistance and mildew resistance. TTD:2-46.

WATERTIGHT COTTON FABRICS. Frederick T. Peirce, N. C. State College. *Textile Bull. 69,* No. 5, 11-12 (Nov. 1, 1945).

Illustrated description of the water-resistant cotton fabric developed by Shirley Institute to take the place of flax canvas for military uses, e. g. in garments and other fabrics requiring impermeability to liquid water while remaining permeable to water vapor. TTD:2-46.

WATERPROOFING. Ralph T. K. Cornwell (Sylvania Industrial Corp.). USP 2 390 780, Dec. 11, 1945.

Production of coated fabrics for oilcloth, artificial leather, raincoats and the like is greatly simplified by a 3-stage method in which the fabric is sized with a degraded cellulose ether or with a regenerated cellulose derived from viscose or from cellulose solutions in other reagents. A top moistureproofing coating of cellulose derivatives, synthetic resins of the urea-formaldehyde type, vinyl resins or a modified drying oil resin or rubber or a rubber derivative is applied to the sized fabric by means of an intermediate anchor coating which is itself a film-forming water-resistant resin such as an oil modified alkyd resin, a phenol-formaldehyde or melamine-formaldehyde resin, or a natural or synthetic rubber. The top coat may contain a natural or synthetic wax as a moistureproofing agent. The preferred top coat is a plasticized nitrocellulose containing a moistureproofing agent such as paraffin or carnauba wax. TTD:2-46.

FLAMEPROOFING. H. Dreyfus. Brit. P. 569 040. *Textile Mfr. 72,* 496 (Nov. 1945).

High tenacity rayons composed of regenerated cellulose from acetate rayon are flameproofed by treatment with guanidine or one of its salts in 10% solution for about 5 min. at 25°C, followed by baking at about 90°C. TTD:2-46.

FIREPROOFING. Profene Mfg. Co. Brit. P. 569 215. *Textile Mfr. 72,* 497 (Nov. 1945).

Coating compositions which may be used for fireproofing fibrous materials or as a binder in laminates contain Na silicate (40-47°Be) emulsified with a drying oil and a high boiling mineral oil. A finely divided filler such as cellulose fiber may be added to give body. TTD:2-46.

PROOFING FIBERS. E. Bader. Brit. P. 569 475. *Textile Mfr. 72,* 498 (Nov. 1945).

Wood pulp or other cellulosic fiber is rendered resistant to gasoline, acids and water by treatment with a solution of a sulfurized oil in an organic solvent. TTD:2-46.

GASPROOF GARMENTS. E. C. & U. C. Maxwell. Brit. P. 569 663. *Textile Mfr. 72,* 498 (Nov. 1945).

Waterproof gasproof garments are made from glass fiber or the like proofed with linseed oil or a linseed oil varnish. TTD:2-46.

TESTING AND ANALYSIS IX

Physical properties IX 1

PROTEIN PLASTICS. Determination of saturation water content of protein plastics. Edward F. Mellon, *Ind. & Eng. Chem., Analyt. Ed. 17,* 743 (Nov. 1945).

Disks 0.0625″ thick as samples give more accurate and reliable saturation water content data than the standard ASTM disks 0.125″ thick. The saturation water content is more reliable than the ASTM test which compares rates of absorption. Extension of the test to other plastics is contemplated. TTD:2-46.

ROPE. Impact strength of nylon and of sisal ropes. Sanford B. Newman & Helen G. Wheeler, Nat'l Bureau of Standards. *J. Res. Nat'l Bur. of Standards 35,* 417-31 (Nov. 1945).

The energy required to break a rope under impact loading is greater than under static loading. The elongation at break is practically the same in both cases. Comparative tests with 3-strand 7/16″ nylon and 4-strand 9/16″ sisal rope indicate that the energy values calculated from static tests give a safe estimate of performance characteristics under impact loading. TTD:2-46.

STRENGTH TESTS. Determination of fiber strength. H. McMorran, Scottish Woollen Technical College. *Textile Mfr. 72,* 454 (Nov. 1945).

A simple test is described and illustrated which permits determination of the strength of fibers or yarns with the aid of a chemical balance and a few minor items of equipment available in any laboratory. TTD:2-46.

TESTING. Standard testing of yarns & fabrics. A.

W. Bayes. *J. Textile Institute 36,* P182-6 (Nov. 1945).

Various steps which are needed in standardizing the testing of yarns and fabrics are discussed. Several sources of error in the operation of testing machines are considered. TTD:2-46.

Fiber testing IX 1 a

FELTING SHRINKAGE. Determination of milling and felting shrinkage on small samples of fabrics and loose fiber. N. H. Chamberlain & J. Menkart, Leeds University. *J. Soc. Dyers & Colorists 61,* 286-91 (Nov. 1945).

A new experimental milling machine, applicable to both soap and acid milling, is apparently accurate within the inherent limits of sample-to-sample variability in wools from different sources. The new machine facilitates the determination of milling or felting shrinkage in small samples of fabric or loose wool and is therefore useful in studies of the properties of wool fibers. TTD:2-46.

FELTING WOOL. Frictional properties of wool fibers in relation to felting. L. Bohm, Porritts & Spencer, Ltd. *J. Soc. Dyers & Colorists 61,* 278-83 (Nov. 1945).

A new method is described for measuring the directional or differential frictional effect (DFE) of wool fibers on the basis of frictional behavior. An interpretation is offered for such aspects of felting as variability in felting capacity, the pH effect, absence of felting in nonaqueous mediums, mechanical forces in felting and the mechanism of preventing felting. TTD:2-46.

FIBER TESTS. Study of the Pressley cotton fiber strength tester. Simon Williams & E. V. Painter. Nat'l Cotton Council. *Textile Research J. 15,* 403-12 (Nov. 1945).

Results of numerous break tests made with a Pressley tester on various samples of cotton fibers are analyzed. The different variables, manipulative and mechanical, are weighed. They include jaw-screw pressure, weight and width of fiber bundles, bundle angle, and probably jaw fatigue on machines in constant use. Testers need close control to avoid errors due to changes in mechanical condition. TTD:2-46.

TENSILE STRENGTH. Molecular orientation and the tensile properties of cotton fibers. R. Meredith, *Shirley Institute Memoirs 19,* 365-78 (Oct. 1945).

About the same load is needed to stretch fibers of different fineness to the same elongation. This is accounted for in terms of the spiral structure of the cotton fiber as influenced by molecular orientation of the cellulose molecules. Tensile strength and Young's modulus data were measured on 36 samples of raw cotton. TTD:2-46.

MOISTURE METER. Heberlein & Co. Brit. P. 569 439. *Textile Mfr. 72,* 498 (Nov. 1945).

A new instrument for determining the moisture content of fibrous materials, whether stationary or in motion, passes the material through a d.c. circuit so that a condenser is charged. The condenser is bridged by a gas discharge lamp, the ignition voltage of which is below the voltage of the d.c. circuit. TTD:2-46.

BALLISTIC WORK OF RUPTURE OF TWISTED BUNDLES OF JUTE FIBER AND ITS RELATION TO SPINNING QUALITY. B. K. Chakrabarti, K. R. Sen & C. R. Nodder. Technological Research Memoir, Indian Central Jute Committee, Calcutta, 1945; price Re. 0-8-0.

Reviewed in *Indian Textile J. 56,* No. 662, 187-8 (Nov. 1945). TTD:2-46.

Yarn testing — IX 1 b

STRENGTH TESTS. Standardization of wet spun yarn strength testing. Linen Industry Research Assoc'n. *Fibers, Fabrics & Cordage 12,* 457, 459-61, 465 (Nov. 1945).

A modification of the Mulholland strength tester is described and illustrated. There has been a serious lack of precision in routine testing and more attention is needed not only to accuracy of instruments but to the problems of correct sampling and standardization of test conditions. TTD:2-46.

WOOL ANALYSIS. Rapid method for the determination of vegetable matter in wool. George C. LeCompte, USDA Production and Marketing Administration. *Am. Dyestuff Reptr. 34,* 469-70, 473 (Nov. 19, 1945).

The caustic boil method of determining vegetable matter in wool is fairly accurate for cotton but not for other plant residues such as burs. By dissolving out the wool with NaOH-NaOCl solution, and taking advantage of a short rapid washing technique better results are obtained. TTD:2-46.

RELATIONSHIP OF TWIST TO THE STRENGTH AND LENGTH SHRINKAGE OF A WOOLEN YARN. Henry L. Pero. *Bull. Series 49,* No. 2. Lowell Textile Institute, Nov. 1945; 4 pp. TTD:2-46.

Fabric testing — IX 1 c

INSPECTION. Silk and rayon cloth inspection. Henry Livesey Ltd. *Textile Mfr. 72,* 474 (Nov. 1945).

Illustrated description of the latest R type inspecting machine, which maintains a constant speed of cloth travel past the inspector. TTD:2-46.

TESTING FABRICS. Study of the tongue-tear test. Cyril M. Krook & Kenneth R. Fox. Massachusetts Institute of Technology. *Textile Research J. 15,* 389-96 (Nov. 1945).

The many types of stresses and strains to which textile materials are subjected are studied through various tear-testing methods in comparison with the tongue test. Photographs of some of these tests are shown under different stresses. Three methods for increasing tear-strength are given, which when used in combination give a fabric with approximately equal tearing strength across warp and filling. They are: decrease the fabric count across the direction of tearing, use stronger yarns in the direction of tearing, and decrease friction in the fabric. TTD:2-46.

TIRE CORD TESTS. Effect of tire cord uniformity on the strength of tire fabrics. Howard J. Philipp, Southern Regional Research Laboratory. *Textile Research J. 15,* 397-402 (Nov. 1945).

By use of a Scott tire-cord tester, statistical data have been compiled upon the relative contributions to effective tire-cord strength of 10 cotton cords and 7 rayons. Effective cord strength, as distinguished from average single-cord strength, may be computed with considerable accuracy by a simple formula involving the coefficient of variability of single-cord strength. TTD:2-46.

Chemical analysis — IX 2

CELLULOSE. Degradation of cellulose by certain metallic salts. F. L. Allen and E. A. Rudge. *J. Soc. Chem. Ind. 64,* 332 (Dec. 1945).

Certain metal salts such as Ca bicarbonate cause degradation of purified cellulose. The degradation was measured by increase in fluidity, copper number and pentosan content; also by physical disintegration of the samples. Other Ca salts showed less effect. TTD:2-46.

CELLULOSE. Fibrous holocellulose from softwoods. Edwin L. Lovell, Rayonier, Inc. *Ind. Eng. Chem. 37,* 1034-7 (Nov. 1945).

Unextracted western hemlock and slash pine chips were completely delignified with several charges of aqueous Na chlorite and acetic acid. Chain length studies showed that this procedure had little degrading effect on these holocelluloses or on cotton cellulose. Alpha-cellulose contents of these holocelluloses were 76-80%; there was no beta-cellulose fraction. Alkaline refining progressively removed the material of lower molecular weight, leaving a resistant cellulose insoluble in 18% NaOH. The average degree of polymerization for both holocelluloses was 1100-1600. In general, their physical properties were superior to those of a moderately strong sample of bleached sulfate pulp from southern pine. The process described is of value because all of the lignin is removed, and the cellulose is recovered in its native fibrous form, retaining most of the associated short-chain polysaccharides. Experimental details are given. Bibliography (31 references). TTD:2-46.

CELLULOSE OXIDATION. Atmospheric oxidation of cellulose in presence of reduced vat dyes. J. Brear & H. A. Turner, Manchester College of

Technology. *J. Soc. Dyers & Colorists 61,* 273-8 (Nov. 1945).

Experiments with a number of active vat dyes on cotton confirm the conclusion that accelerated oxidation of cellulose can occur in the dark when atmospheric oxygen acts on the leuco compounds of vat dyes on the fiber. Oxidation is much more active in presence of light. An improved procedure is described for preparing cuprammonium solution for the fluidity determinations. TTD:2-46.

DYE FASTNESS. A washing test of thoroughness to match ultimate use. Anon. *Silk & Rayon 19,* 1232 (Nov. 1945).

Illustrated description of a machine designed in 1903 to test the fastness of dyes then available for extremely severe conditions encountered in garments used by the Austrian army. TTD:2-46.

DYEING FIBERS. Influence of methylation on behavior of paper fibers towards basic dyes. Chas. M. Sigvardt. *Paper Trade J. 121,* TAPPI Section 199-207 (Nov. 22, 1945).

Wood cellulose in several forms was methylated and the dyeing behavior was tested. Methylation of acidic groups decreases absorption of basic dyes. Sulfite pulp with the same lignin content as soda and kraft pulps absorbs at least twice as much dye. Incomplete methylation of sulfite, sulfate and native lignins decreased dye retention of sulfate and native lignins but not of sulfite lignin. The mechanism of dyeing cellulose fibers with basic dyes is discussed. TTD:2-46.

HEAT CONDUCTIVITY. Measurement of thermal conductivity of nonmetallic solids. G. L. Hall & I. B. Prettyman, Firestone Tire & Rubber Co. *India Rubber World 113,* 222, 235 (Nov. 1945).

Using the steady-state method the thermal conductivity of synthetic rubber tread stock, rubber sponge, and a resin impregnated laminate of glass fiber and cotton duck has been measured in a study of fuel cell linings and other products. The steady-state method of measurement is simple and rapid and is applicable to low and medium ranges of thermal conductivity. TTD:2-46.

MACROMOLECULES. W. T. Astbury, Leeds Univ. *Silk & Rayon 19,* 1161 (Nov. 1945).

There are 2 principal types of fibrous proteins, namely the keratin type as typified by animal hair and the collagen type as typified by tendons. The electron microscope has been used to supplement x-ray data in studies of keratin and collagen structure. TTD:2-46.

PLASTIC COATINGS. Resistance of plastics to chemical reagents. John Delmonte. Plastics Industries Technical Institute. *Plastics 3,* No. 5, 36, 38-39, 129-133 (Nov. 1945).

Test results are presented in tables and curve charts to show the resistance of synthetic resins and cellulose derivatives to water, acids, alkali, organic solvents and

a variety of chemical and mechanical exposure conditions. The experimental results are significant for plastics used in making fabric laminates and in coated fabrics, as well as for resins and plastics employed in creaseproofing and other proofing treatments for fabrics. Polystyrene, for example, stands high in resistance to water but relatively low in resistance to acids. TTD:2-46.

PROTEIN FIBERS. Contribution of the analytical chemist to the problem of protein structure. A. C. Chibnall, Leeds Univ. *Silk & Rayon 19,* 1161 (Nov. 1945).

In research on the structure of large protein molecules much reliance must be placed on physical methods but analytical chemistry can do much by breaking down the large molecules into their component parts. Collagen, one of the types of fibrous protein, still needs much research; so does gelatin, a protein used in textile processing and finishing. TTD:2-46.

PROTEIN STRUCTURE. On the numerical consequences of certain hypotheses of protein structure. A. G. Ogston, Balliol College, Oxford. *Trans. Faraday Soc. 41,* 670-6 (Nov.-Dec. 1945).

The regularity with which amino acids recur in proteins is examined in view of several hypothetical protein structures. There may be a 3-dimensional pattern in the Astbury model for fibrous proteins such as wool. TTD:2-46.

SARAN. Properties and application of Saran pipe. D. R. Williams, Dow Chemical Co. *Chem. & Met. Eng. 52,* No. 11, 112-13 (Nov. 1945).

The properties and chemical resistivity of Saran pipe are discussed and tabulated. In addition to its uses for piping, Saran is applicable to fiber products such as screens, belting, dipping nets and filter cloth, i. e. especially in uses involving exposure to active chemicals. TTD:2-46.

TITRATING WOOL. Data on wool-acid-water relationships. Kermit S. LaFleur, Wyandotte Worsted Co. *Am. Dyestuff Reptr. 34,* 443-7, 452 (Nov. 5, 1945).

When wool reacts with HCl the relation is approximately that of a base reacting with a monobasic acid. With H_2SO_4 the reaction is nearly that of a base with a dibasic acid, but oxalic acid (dibasic) and phosphoric acid (tribasic) act more nearly like monobasic acids. Hydrolysis of the wool protein is a source of error since it occurs even at relatively low temperature in acid baths during a short period of exposure. TTD:2-46.

FIRE RESISTANCE. Ernest E. Hubert (to I. F. Laucks Inc.). USP 2 391 161, Dec. 18, 1945.

A device for testing the flameproofness of fabrics includes a plate on which the test fabric is clamped over a recess in the plate. A second plate, hinged above the first, rests on the fabric and is equipped with a removeable mask which defines a pattern on the fabric

for the application of a flameproofing chemical to be tested. TTD:2-46.

STATISTICAL ANALYSIS OF TEST DATA. Tech. Bull. 773, Calco Chemical Division, American Cyanamid Co., Bound Brook, N. J., 1945.

Reviewed in *Modern Plastics 23,* No. 4, 192 (Dec. 1945). TTD:2-46.

Specifications IX 4

FADING. Gas fading and the AATCC. Anon. *Textile Colorist 67,* 120 (Nov. 1945).

A summary of results obtained in recent years by a committee appointed to study gas fading of acetate rayon. Three control standards for judging the extent of fading have been established. One of the control standards is itself sensitive to gas fading and must be protected; the next indicates the change in color of the first standard after 6 months exposure, while the third is a sample which is fast to gas fading. TTD:2-46.

WIDTH STANDARDS. Garment manufacturers desire standard fabric widths. Folke Kjellnäs, J. A. Wettergren & Co., and Lars Thoren. *Textil och Konfektion 2,* No. 10, 19-23 (Dec. 1945).

Principles involved in establishing optimum width for wool fabrics to be used in manufacture of women's garments need prompt attention since there is much confusion and variability in fabrics now produced by the textile mills. TTD:2-46.

YARN STANDARDS. Yarn number and a yarn numbering system. Stig Kjellstrand, Textile Institute of Boros. *Textil och Konfektion 2,* No. 10, 13-18 (Dec. 1945).

Numerous proposals for new yarn numbering systems have increased rather than diminished the existing confusion. An effort is made to clarify the existing systems and to establish the principles upon which a simplified rational yarn numbering system should be based. TTD:2-46.

YARN IDENTIFICATION. Benjamin W. Collins (to Am. Viscose Corp.). USP 2 390 512, Dec. 11, 1945.

Rayons and synthetic yarns made from spinning solutions or melts can be positively identified as to origin and method of manufacture by incorporating in the spinning solution or melt a natural or synthetic glass or other silicate in which the metal component may be a heavy metal, a rare earth or one of the precious metals. The silicates are ground a particle size finer than 0.0005 mm. The amount needed for identification purposes is less than 0.001% of the amount of yarn. Soaps of the same metals may be incorporated with the silicates. Tests for identification may be chemical or spectroscopic. The silicates of beryllium, zirconium and molybdenum are particularly suitable. TTD:2-46.

ASTM STANDARDS ON SOAPS AND OTHER DETERGENTS. Am. Soc. for Testing Materials, Philadelphia, 1945; 183 pp.; price $1.75.

Reviewed in *Chem. & Met. Eng. 52,* No. 11, 294 (Nov. 1945). TTD:2-46.

WASTES X

Fibrous wastes X 1

PICKER. Andrew B. Shelton. USP 2 390 469, Dec. 4, 1945.

A linter picker which can be readily and quickly coupled to a spindle has a long flexible shaft bearing a needle for picking up lint or other fiber waste. An improved release clutch permits optional operation of the needle, and quick cleaning without uncoupling it from the spindle. TTD:2-46.

WASTE THREAD COLLECTOR. Walter H. Wakefield (to Crompton & Knowles Loom Works). USP 2 390 478, Dec. 4, 1945.

Pneumatic waste removal from weft replenishing looms is provided by a waste thread collector. Operation of a main and an auxiliary air path is alternately controlled by a valve so that when the accumulator door is opened for removal of waste threads (weft ends), an auxiliary thread passage is activated while the main passage is closed. Removal of threads can be accomplished thus without destroying the partial vacuum within the system. TTD:2-46.

CLEARER ROLL. S. Ackroyd & H. I. Haigh. Brit. P. 569 602. *Textile Mfr. 72,* 498 (Nov. 1945).

A roll for clearing waste from the front bottom roll of a worsted draw box is fitted with a rotating brush and an adjustable arm carrying a comb to comb waste fiber from the brush. TTD:2-46.

CLEANSING XI

Laundering XI 1

DRYING. Taylor Wordsworth drying machine. Anon. *Can. Textile J. 62,* No. 22, 44 (Nov. 2, 1945).

Illustrated news note concerning the new Aireflow drying machine for wool, cotton, flax, rags or any type of loose fabric before or after dyeing. TTD:2-46.

WET PROCESSING. Edward Knight (to Am. Viscose Corp.). USP 2 390 096, Dec. 18, 1945.

Improved apparatus for washing, desulfurizing, bleaching and finishing viscose staple fiber tow provides for successive sprays of treating liquids in suction boxes. The tow is carried on a conveyor beneath the sprayer heads. The conveyor track is alternately horizontal and elevated, with the sprayer heads placed above the horizontal portions. The new equipment provides rapid uniform treatment and thorough removal of one

EGYPTIAN COTTON. Anon. *Cotton* (Manchester) *51,* No. 2481, 6 (Nov. 10, 1945).

News note concerning the quality of Karnak, Giza 7, Menoufi, Ashmouni and Zagora cottons as compared with the quality of previous crops. TTD:2-46.

GERMAN CHEMICAL INDUSTRIES. Anon. *Chem. & Met. 52,* No. 11, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228 (Nov. 1945).

Abstracts are presented of reports released by the Office of the Publication Board, US Dept. of Commerce, on Germany's wartime industries. The topics include synthetic rubbers and compounding ingredients used therein, German research on fibers and on textile finishing, German rayons including acetate and regenerated cellulose products, and synthetic fibers. A bibliography of 377 documents covers the sources upon which these reports are based. TTD:2-46.

GERMAN PRACTICE. John C. Fonville. *Cotton* (Atlanta) *109,* No. 11, 98-99 (Nov. 1945).

Brief summary of reports on German textile methods and equipment, as observed by the textile teams for the Quartermaster General. TTD:2-46.

GERMAN TEXTILES. Investigation of German textile developments. S. J. Kennedy, QMC. *Nat'l Canvas Goods Mfrs. Rev. 21,* No. 8, 20-21 (Nov. 1945).

A brief survey of the textile investigations carried on in Germany under the auspices of the Technical Industrial Intelligence Committee, Textiles Subcommittee, during the latter part of 1945. TTD:2-46.

HOSIERY. Nylon won't have a monopoly. John H. Brine. *Southern Knitter 9,* No. 11, 29-30, 65-66 (Nov. 1945).

War conditions which left only rayon and cotton available for hosiery led to serious difficulties because cotton could not be used on the fine gauge machines and rayon hose at that time were made only from yarns with the producer's twist. High twist rayons had not yet been tried for the purpose. The result was for a time a large production of stockings which were inferior in fit, appearance, comfort and wearing quality. Great improvements were effected by proper use of high twist rayon yarns and further improvements are now in progress through the introduction of high tenacity yarns into hosiery manufacture. Early predictions that the return of nylon would ban rayon from the hosiery market are therefore not likely to be fulfilled. TTD:2-46.

INDUSTRIAL FABRICS. Defects in industrial cotton fabrics. Boris Monsaroff, Cosmos Imperial Mills. *Can. Textile J. 62,* No. 23, 45-46 (Nov. 16, 1945).

Case histories are presented of defects of cotton duck, filter cloth, paper machine felts and other industrial fabrics, to illustrate causes and prevention of premature failure. TTD:2-46.

NEW PRODUCTS. New products and materials. R. W. Porter. *Chem. & Met. Eng. 52,* No. 11, 143-44, 146, 148 (Nov. 1945).

Illustrated news notes concerning Forticel, a new cellulose propionate plastic made from linters or wood pulp; a stable, safe concentrated (90%) H_2O_2 preparation; a spirally wound Ethocel container for silicone sealing compound; rods of molded FM-1 nylon; Skylac, a flameproof lacquer for the fabric-covered parts of aircraft; Cliderite, a sealing compound with ethylcellulose base; DB 218, a flexible vinylbutyral resin for coating army ponchos and other protective garments; and lightweight bandages or plaster casts made with Fiberglas. TTD:2-46.

SPINNING LABORATORY. Zellwolle Lehrspinnerei at Denkendorf. M. Earl Heard, West Point Mfg. Co. *Cotton* (Atlanta) *109,* No. 11, 99-103, 146 (Nov. 1945).

Illustrated description of the model spinning laboratory set up in 1938 by the rayon industry in Germany for instructing users of staple fiber and for carrying on research in spinning. The buildings were designed with utmost care for their specific function and have served well in the experimental program of the laboratory. TTD:2-46.

SPINNING RESEARCH. Work of the Spinning Department at Shirley Institute. L. H. C. Tippett. *Textile Weekly 36,* 892, 894, 896 (Nov. 9, 1945).

A review of research at Shirley Institute in recent years on spinning machinery and methods. TTD:2-46.

TEXTILE PROBLEMS. Problems for future Quartermaster textile research. Lt. Col. Stephen J. Kennedy QMC. *Textile Research J. 15,* 413-22 (Nov. 1945).

Long range clothing needs of the army brought up problems for research on wind resistance, water repellency, wool shrinkage, seam strengthening, nonabsorbent webbing, sleeping gear, tentage fabrics, abrasion resistance, and tropical deterioration. TTD:2-46.

TEXTILE RESEARCH. Activities of the Shirley Institute in the field of cotton spinning. S. Taylor. *Textile Weekly 36,* 978, 980 (Nov. 23, 1945).

A lecture on the activities of the publication program,

the liaison department and other departments of the Shirley Institute. TTD:2-46.

TEXTILE RESEARCH. Quartermaster reports on textile research. *Cotton* (Atlanta) *109,* No. 11, 113 (Nov. 1945).

Brief summary of papers presented at the conference by Col. S. J. Kennedy, problems for future Quartermaster textile research; Chandler Robbins, synthetic fibers in the Quartermaster war program; Stanley Backer, increasing the wear life of army textiles through research; Harry F. Lapham, washable woolens for the army; Oliver P. Beckwith, use of army service testing techniques in the development and interpretation of laboratory textile tests; Wm. H. Weston, tropical deterioration of textile products; George F. Doriot, program for future research; Harold D. Smith, future of textile research.

TTD:2-46.

ECONOMIC ISSUES IN TEXTILES: A Challenge to Research. Hiram S. Davis, Univ. of Pennsylvania, Philadelphia, 1945; 32 pp; price 50¢.

Reviewed in *Textile Research J. 15,* 423 (Nov. 1945). TTD:2-46.

WEAR AND CARE OF CLOTHING. J. Guilfoyle Williams, George Newnes, Ltd. Southampton St., Strand, London WC. 2, 1945; price 7s. 6d.

Reviewed in *Can. Textile J. 62,* No. 24, 12 (Nov. 30, 1945). TTD:2-46.

YARN QUALITY AS AFFECTED BY RATE OF CARDING AMERICAN AND EGYPTIAN LONG STAPLE COTTONS. John M. Cook & Roland L. Lee, Jr. USDA Production and Marketing Administration, Washington, Jan. 1946; 24 pp.

TTD:2-46.